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An Exploration of the Impact of a Change Programme on
Employee Job Satisfaction Levels at UPM-Shotton

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degree of Master of Business Administration

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This dissertation is for my family.

Abstract

Contemporary literature on organisational change suggests that the pace of change is accelerating and that organisations must be prepared to anticipate and respond quickly to change in order to remain competitive. Effective change management practices and processes have become an increasingly indispensable part of running a successful business. The impact of change on employee well-being is also of growing importance as it can affect the functioning of the business.

Despite the considerable amount of academic literature on change, there seems to be a lack of research on the impact of change on employee levels of job satisfaction, and the factors that maintain or enhance job satisfaction during change. More specifically, no research has investigated how a TPM change programme affects employee levels of job satisfaction. This study therefore aims to explore how a TPM change programme impacts on levels of employee job satisfaction, within a manufacturing environment.

A conceptual model was developed which drew together the key theoretical elements of change management and job satisfaction. A cross-sectional design was used to compare levels of job satisfaction, and factors identified from the conceptual model between a group actively involved in a TPM change programme ($N = 30$) with a group not yet involved in the change programme ($N = 48$).

Statistical analyses demonstrated that there were significant differences between groups. Significantly higher levels of job satisfaction, opportunities to learn new skills and the experience of effective communication, was shown by participants actively involved in the TPM change programme. In addition, levels of job satisfaction showed significant positive correlations with understanding the need and benefits of the change programme and personal responsibility for successfully completing work outcomes.

It was concluded that the non-significant differences found between groups, concerning aspects of job enrichment, suggest that other factors of the conceptual model, such as communication and learning culture, may have a stronger influence on levels of job satisfaction.

Declaration

This work is original and has not been submitted previously for any academic purpose. All secondary sources are acknowledged.

Signed: _____

Date: _____

Table of Contents

Title Page.....	i
Acknowledgements.....	ii
Abstract.....	iii
Declaration.....	iv
Table of Contents.....	v
List of Appendices.....	viii
List of Figures.....	ix
List of Charts.....	x
List of Tables.....	xi

1 Introduction

1.1	Background to the Research	1
1.2	Research Question	3
1.3	Justification for the Research	4
1.4	Methodology	6
1.5	Outline of the MBA Dissertation	7
1.6	Definitions	8
1.7	Chapter Summary	9

2 Literature Review

2.1	Introduction	10
2.2	Change Management	10
2.2.1	Planned and Emergent Change	10
2.2.2	Change Programmes	12
2.2.3	Resistance to Change	14
2.3	Job Satisfaction	15
2.3.1	Job Satisfaction and Change	17
2.3.1.1	Communication and Change	18
2.3.1.2	Job Enrichment and Change	20

2.3.1.3	Learning Culture and Change	21
2.4	Conceptual Model	23
2.4.1	Drivers for Change	23
2.4.2	Management of Change	24
2.4.3	Communication, Job Enrichment, Learning Culture and Job Satisfaction	25
2.4.4	Resistance to Change	26
2.4.5	Continuous Improvement	27
2.5	Chapter Summary	28
3	Methodology	
3.1	Introduction	29
3.2	Methodological Considerations	30
3.2.1	Research Philosophy	31
3.2.2	Research Approach	31
3.2.3	Research Strategy	31
3.2.4	Research Choice	32
3.2.5	Time-horizon	32
3.2.6	Research Purpose	32
3.2.7	Rejected Methods	32
3.3	Research Procedures	33
3.3.1	Data Collection Methods and Triangulations	33
3.3.2	Semi-Structured Interviews	34
3.3.3	Survey Questionnaire	38
3.3.3.1	Pilot of Questionnaire	41
3.3.3.2	Sampling Group	42
3.3.4	Standardised Questionnaire	43
3.4	Ethical Considerations	44
3.5	Analysis of Data	45
3.6	Chapter Summary	46

4	Findings	
4.1	Introduction	47
4.2	Findings from Semi-Structured Interviews	47
4.2.1	Change Management	48
4.2.2	Job Enrichment	49
4.2.3	Learning Culture	50
4.2.4	Communication	51
4.3	Findings from Survey Questionnaires	52
4.3.1	Demographic Data	52
4.3.2	Job Enrichment	56
4.3.3	Learning Culture	59
4.3.4	Change Management	62
4.3.5	Communication	65
4.3.6	Continuous Improvement	68
4.4	Findings from Standardised Questionnaires	69
4.4.1	Correlation Analysis	70
4.5	Chapter Summary	76
5	Conclusions and Implications	
5.1	Introduction	77
5.2	Critical Evaluation of Adopted Methodology	78
5.3	Conclusions about the Research Question and Aims	80
5.4	Recommendations	87
5.5	Limitations of the Study	88
5.6	Opportunities for Further Research	89
	References	99

List of Appendices

Appendix 1:	Project Information Sheet on Proposed Research	101
Appendix 2:	Semi-Structured Interview Consent Form	102
Appendix 3:	Semi-Structured Interview Questions	103
Appendix 4:	Survey Questionnaire Raw Data	105
Appendix 5:	Standardised Questions on Job Satisfaction	106
Appendix 6:	Survey Questionnaire	107
Appendix 7:	Dissertation Project Plan (October 2007 to June 2008)	113

List of Figures

Figure 1: Lewin's (1951) Three-phase Model	11
Figure 2: Deming's (1986) PDCA Cycle	14
Figure 3: Herzberg's Job Satisfaction Theory (Rollinson, 2002)	16
Figure 4: Mumford's (1994) Five-factor Model	17
Figure 5: Author's Conceptual Model (2008)	23
Figure 6: Saunders et al.'s (2007) Research Onion Model	30
Figure 7: Saunders et al.'s (2007) Values of the correlation coefficient	70

List of Charts

Chart 1: Gender of respondents in Group 1 and Group 2	52
Chart 2: Age range of Group 1 and Group 2 respondents	53
Chart 3: Length of service by Group 1 and Group 2 respondents	54
Chart 4: Job roles held by respondents of Group 1 and Group 2	55
Chart 5: Respondent ratings – Contribution to business	56
Chart 6: Respondent ratings – Personal responsibility	57
Chart 7: Respondent ratings – Performance feedback	58
Chart 8: Respondent ratings – Learning support in culture	59
Chart 9: Respondent ratings – Motivation to learn	60
Chart 10: Respondent ratings – Opportunity to learn	61
Chart 11: Respondent ratings – TPM involvement	62
Chart 12: Respondent ratings – TPM success	63
Chart 13: Respondent ratings – TPM support	64
Chart 14: Respondent ratings – TPM understanding	65
Chart 15: Respondent ratings – TPM communication frequency	66
Chart 16: Respondent ratings – Communication methods	67
Chart 17: Respondent ratings – Continuous improvement	68
Chart 18: Mean job satisfaction Group 1 and Group 2 respondents	69
Chart 19: Correlation between job satisfaction and job contribution	71
Chart 20: Correlation between job satisfaction and learning support	72
Chart 21: Correlation between job satisfaction and involvement	73
Chart 22: Correlation between job satisfaction and internal communication	74
Chart 23: Correlation between job satisfaction and continuous improvement	75

List of Tables

Table 1: Correlation analysis results (Question 6 and 7)	71
Table 2: Correlation analysis results (Question 9 and 10)	72
Table 3: Correlation analysis results (Question 12 and 13)	73
Table 4: Correlation analysis results (Question 15 and 16)	74
Table 5: Recommendations	87

1 Introduction

1.1 Background to the Research

The research for this dissertation was carried out at UPM-Shotton, part of the United Paper Mills (UPM) group. UPM is a Finnish owned forest products company with core businesses in printing papers, label materials and wood products. The company employs 28,000 people and has production units in several countries across the world including America, China, Finland and the United Kingdom (UK). UPM is a leading producer of magazine papers and is one of Europe's largest manufacturers of newsprint and fine papers. Printing papers account for over half the group's €10 billion annual turnover. The company also supply paper board and a wide variety of wood products to the global market.

UPM-Shotton, a UK based business unit of the UPM group, is a combined pulp and paper mill producing 550,000 tonnes of recycled newsprint per annum. The majority (90%) of the paper manufactured at the site is sold to the domestic market (UK and Ireland); the remaining 10% is exported to European and Asian markets. The company's largest customer is News International, who print some of the more widely recognised national newspapers including The Sunday Times and The Sun. UPM-Shotton currently employs 405 people.

As the pace of business life becomes faster and more demanding, large manufacturing organisations, such as UPM-Shotton, producing a standardised commodity grade product, face intense competition from both traditional and emerging markets. As noted by Landrum et al. (2000), organisations that do not remain competitive in this environment are likely to begin a downward trend in financial performance and must be revitalised in order to continue operating. Global competition has lead to the closure of a number of paper manufacturing sites within the UK over recent years. For UPM-Shotton to remain competitive, and indeed survive, the business must quickly and effectively learn to accept and adapt to change in response to shifting environmental conditions.

Programmes of planned and emergent change can be positive and bring new opportunities to the employees of an organisation, and such opportunities can have a beneficial effect on the

level of job satisfaction experienced by the employees. High levels of job satisfaction have been associated with successful change implementation and improved company performance (Rowden, 2002). However, change programmes can also alter employees' job roles, working relationships and organisational structures (Nortier, 1995). Such changes can negatively impact on an employee's job satisfaction. Mohram et al. (1998) suggest that there are several factors that can influence, maintain or enhance the level of an employee's job satisfaction during a period of change. These factors, identified by Mohram et al. (1998), form an anchor for the development of the conceptual model and the research aims of the current study. These factors are discussed further in Chapter 2.

1.2 Research Question

The purpose of this research is to investigate and compare the level of job satisfaction experienced by two different groups of UPM-Shotton employees. One group (Group 1) is actively involved in a Total Productive Maintenance (TPM) change programme, and the other group (Group 2) are not yet actively involved in the change programme. The study examines whether job satisfaction levels are significantly different between groups. The research also focuses on how the change programme has been managed and provides recommendations on how the level of employee job satisfaction can be maintained, or enhanced, through improvements to the change programme.

The research question is:

How does a programme of change, within a manufacturing environment, impact on the level of job satisfaction experienced by employees?

The research aims are:

- 1) To examine existing change management theory.
- 2) To identify current thinking on job satisfaction.
- 3) To explore UPM-Shotton's approach to change management and identify which factors, based on the conceptual model, affect job satisfaction.
- 4) To compare levels of job satisfaction amongst UPM-Shotton employees who are actively involved in a Total Productive Maintenance (TPM) change programme, compared with employees who are not yet involved in the change programme.
- 5) To make recommendations on how to increase levels of job satisfaction, amongst UPM-Shotton employees, through the development of the change programme.

1.3 Justification for the Research

Contemporary literature on organisational change suggests that the pace of change is accelerating and that businesses must be prepared to anticipate and respond quickly and appropriately to change. Effective change management practices and processes have therefore become an increasingly indispensable part of running a successful business. UPM-Shotton has recognised that change is required in order to remain competitive and improve organisational efficiency, and has selected Total Productive Maintenance (TPM) as the change programme required to facilitate and structure the necessary change.

The impact of change on employee well-being is of growing importance. For example, the Health and Safety Executive (HSE) have recognised that change can be a stressful process that can impact on the health of employees (HSE, 2005). As cited by Senior (2002), Nortier (1995) suggests that individuals who experience change commonly go through a traumatic process of shock and denial before they begin to accept and adapt to the change. Therefore, a key aspect of effective change implementation is acknowledging how employees' adapt, accept and embrace change.

Despite the considerable amount of academic literature on change, there seems to be a lack of research on the impact of change on employees' job satisfaction, and the factors that maintain, or enhance, job satisfaction during the change. As noted by Rowden (2002), there are important reasons why organisations should be concerned with the level of employee job satisfaction. One reason is that job satisfaction is a predictor of the psychological well-being of the workforce, and secondly, job satisfaction can lead to employee behaviour that can affect the functioning of the business. This provides an initial justification for the study.

In order to improve levels of job satisfaction, the way change is implemented and managed within UPM-Shotton, should be considered. Change programmes may not achieve the desired aims and objectives if employee job satisfaction levels are not considered. As proposed by Smith (2005), it is the people within the organisation that are either the key to achieving effective change, or the biggest obstacles to its success. Identifying appropriate factors, which maintain job satisfaction and facilitate employees' acceptance of change, are

crucial in reaching the desired change goals. Effective change management is essential for UPM-Shotton to maintain a position of competitive advantage over its global competitors. This, therefore, provides further justification for the study.

1.4 Methodology

The research methodology selected for this study helped to answer the research question. An interpretivist philosophy, with aspects relevant to a positivist philosophy, was selected for the study. A combined approach to the research was adopted to include both inductive and deductive elements. A survey strategy, involving semi-structured interviews, a standardised questionnaire and a survey questionnaire, was chosen to collect the required research data. A cross-sectional research design was selected for the study due to time constraints.

The methodology selected for this study is described in greater detail in Chapter 3.

1.5 Outline of the MBA Dissertation

Chapter 1 provides a brief overview and background to the research. The research question and aims are introduced and justified, and the study's methodology is outlined.

Chapter 2 contains a review of current academic literature and theory on change management and job satisfaction. This chapter enables the development of a conceptual model that can be used within the dissertation to answer the research question.

Chapter 3 describes the methodological procedures employed to answer the research question. A clear rationale is offered for the chosen research philosophy, approach, strategy, purpose and time-horizon. Rejected methods are also discussed. Selected data collection methods are described and issues relating to validity, reliability and triangulation are considered. In addition, consideration of ethical issues and limitations of the research methodology are provided.

Chapter 4 presents the findings of the research, including the qualitative data from the semi-structured interviews and the quantitative data from the survey questionnaire.

Chapter 5 discusses the research findings within the context of previous research, and the conceptual model outlined in Chapter 2. Conclusions and implications of the research are drawn, and methodological limitations are considered. Finally, recommendations on how to increase levels of job satisfaction, through the development of the change programme, are also discussed.

1.6 Definitions

This dissertation offers an overview of current academic thinking on change management and job satisfaction from the literature. In order to clarify the exact meaning of key elements of the study, definitions are provided.

‘Change management’, as defined by Moran and Brightman (2001) is “*the process of continually renewing the organisation’s direction, structure and capabilities to serve the ever-changing needs of external and internal customers*” (p. 111).

‘Job satisfaction’, as defined by Locke (1976) is the “pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences” (p. 42).

‘Active involvement’ in the change programme refers to UPM Shotton employees who are members of a TPM project team, and who participate in TPM activities. The majority of project team members will have taken part in both a TPM awareness training course and a TPM practitioner course.

1.7 Chapter Summary

This chapter has introduced the research question and aims. It has provided a justification for the research and has described the adopted methodology. An outline of the study has been offered and appropriate definitions presented. On these foundations, the dissertation can proceed to the literature review in Chapter 2.

2 Literature Review

2.1 Introduction

This chapter provides a summary of current academic literature and theory on change management and job satisfaction. The literature review provides a theoretical foundation on which to base the research upon. The chapter enables the development of a conceptual model that will then be used within the dissertation to answer the research question.

2.2 Change Management

The only constant within modern organisations, as stated by Elving (2005), is that they are continually changing. This statement has become somewhat of a cliché within the extensive coverage of management and organisational change literature. Few authors would disagree however that the current pace of business life has become faster and more demanding than ever before.

Traditional views of organisational change suggest that the organisational needs are met by responding to changing environmental conditions (Thornhill et al., 2000). This is supported by Landrum et al., (2000) who suggest that as business environments become increasingly multifarious and competitive, companies must be diligent and flexible in order to remain competitive. Nutt (2001), as cited by McGuire and Hutchings (2006), also acknowledges that turbulent environmental influences can trigger change with increased frequency and that businesses now have to learn to live with constant change.

2.2.1 Planned and Emergent Change

The literature on change suggests that there are two main approaches to change management: ‘planned’ and ‘emergent’. As stated by Bamford and Forrester (2003), planned change conceptualises organisational change as a process that moves from one set position to another through a series of pre-planned steps. Lewin’s (1951) ‘Three-phase’ model suggests that prior to adopting new behaviours, traditional behaviours have to be discarded before new ways of working can be fully accepted. Lewin viewed planned change as a way to improve

the effectiveness of the human side of the organisation through team-based and participative programmes of change.

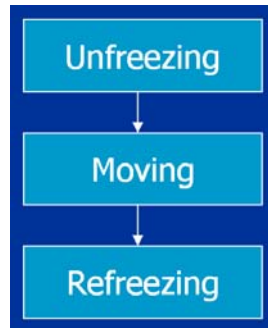


Figure 1: Lewin's (1951) Three-phase Model

'Unfreezing', the initial stage in Lewin's model, suggests that organisations must first alter their ways of thinking and habitual behaviours, in order to increase awareness for the need to change. The second phase, 'Moving', is the process of making the changes that will shift the organisation to its new form. Such changes could include, the introduction of new strategies, improving existing structures or the development of new types of behaviour. The final phase, 'Refreezing', involves fixing and institutionalising the newly made changes into the organisation, and ensuring that the changes do not revert back to the 'old ways'. As stated by Senior (2002), the support and involvement of senior management during this final stage of the process is crucial. Organisational leaders, who promote the newly adopted changes with belief and commitment, are more likely to gain the trust of the employees. Martin (1998), as cited by Weber and Weber (2001), suggests that trusting in management can help to reduce the feelings of uncertainty, speculation and fear of change.

The planned approach to change has been criticised by several authors. Garvin (1994) suggests that due to turbulent business environments, change cannot progress from one steady state to another in a pre-planned manner. The planned approach also assumes, as proposed by Burnes (1996), that everyone involved with the change project agrees to work in a common direction without disagreement, and have a shared eagerness and common interest to implement the change.

More recently, the concept of emergent change has gained support within the literature as it overcomes some of the negative aspects of the planned approach to change. As proposed by Bamford and Forrester (2003), the uncertainty of the environment that makes planned change inappropriate, can enable emergent change to be far more pertinent. The rationale for the emergent approach, as stated by Burnes (1996), originates from the principle that change cannot be viewed as a series of linear events within a set time period. The emergent model, sometimes referred to as continuous improvement or organisational learning, sees change as a continuous and open-ended process of adaptation to changing situations and conditions.

Emergent change within organisations is also seen as being driven by ‘bottom up’ action as opposed to ‘top down’ control. As proposed by Bamford and Forrester (2003), due to the rapid pace of change, it has become impossible for senior management to identify, plan and implement every action required for successful change. A more devolved management approach must therefore be implemented which may change the role of some senior managers from controllers to facilitators (Bamford & Forrester, 2003). Pettigrew and Whipp (1991) suggest however that in terms of leadership, there are no set of universal rules for success.

As noted by Burnes (2004), ‘contingency theory’ rejects both the planned and emergent theories of change by suggesting that there is no ‘one best way’ to change. Contingency theory suggests that the operation and structure of the organisation is reliant on situational variables including environment, size and technology. As these situational variables are different for each organisation, the ‘one best way’ to change for all organisations is replaced with ‘one best way’ to change for each organisation.

2.2.2 Change Programmes

An increased number of planned change programmes have emerged over the past twenty years (Rosenfeld & Wilson, 1999). These programmes are aimed at reducing the inherent uncertainty within unplanned change and for providing a template for action throughout the organisation. A contemporary productive maintenance system, used by an increasing number of manufacturing companies, including NASA and Mitsubishi, is Total Productive

Maintenance (TPM). TPM aims to improve and maintain the availability and efficiency of existing plant machinery through the cooperation of all areas within the organisation. Shamsuddin et al. (2005) suggest that maintenance of equipment is a major contributor to the performance and profitability of manufacturing systems. Bohoris et al. (1995) propose that human resources are also instrumental for TPM to succeed, as a highly motivated workforce can dramatically improve a company's overall productivity. Implementation of TPM, as noted by Hansson et al. (2002), will create organisational change.

The emergence of TPM, as stated by Cooke (2000), is intended to bring production and maintenance functions together through good working practices, effective team working and continuous improvement. Boer et al. (2000) describes continuous improvement as “*the planned, organised and systematic process of ongoing, incremental and company-wide change of existing practices aimed at improving company performance*” (p. 77).

Continuous improvement is based on employee participation and relies on the experience and knowledge of workers, supported, rather than directed by, organisational experts (Jha et al., 1996). Bond (1999) suggests that improvement can be categorised as either small incremental change, ‘Kaizen’, or innovative step change, ‘process re-engineering’ (Bond, 1999). Where Kaizen aims to continuously improve existing products and processes, and epitomises ‘bottom-up’ change, process re-engineering looks to fundamentally change the product and process from a ‘top-down’ perspective. Jha et al. (1996) highlight that step change or strategic leap improvements carry greater risks than Kaizen methods. Step change improvements may fail after initially investing large amounts of time, money and other resources into a particular project.

Kaizen problem solving techniques, and the use of improvement tools such as Ishikawa diagrams and Pareto analysis, are widely used within TPM to encourage and improve organisational efficiency. By identifying and eliminating the causes of inefficiency, positive and dramatic improvements can be made to the business. Deming (1986) advocates that business processes should be placed on a continuous feedback loop so that managers can identify and change parts of the process if an improvement is required. The tool recommended for this process is Deming’s PDCA (Plan-Do-Check-Act) cycle.

As explained by Kreitner (2004), the PDCA cycle follows four main steps:

- 1) Plan - Plan the desired change using current and available data.
- 2) Do - Implement the change.
- 3) Check - Check the outcome of the change.
- 4) Act - Study the results and act on the lessons learned.



Figure 2: Deming's (1986) PDCA Cycle

The Deming PDCA cycle encourages personnel to tackle organisational issues by making small, positive steps of continuous improvement. As suggested by Naylor (1999), making these small changes and reflecting on the process, employees can deal with current issues while also learning how to improve the process for the future.

2.2.3 Resistance to Change

As stated by Eriksson (2004) “*research on organisational change has shown that change programmes often face serious problems*” (p. 111). The literature suggests that a large proportion of organisational change programmes fail or fall short of delivering their desired results. Bennebroek-Gravenhorst et al. (1999), as cited by Elving (2005), suggest that change programmes can fail for several reasons including; organisational culture, the role of change facilitators, or the timing of the change initiative. Other problems such as human resistance and conflicts between competing groups have also been well documented in the literature.

People may resist change, as suggested by Kotter and Schlesinger (1979), for many different reasons, including: loss of security, fear of the unknown or threat to their powerbase.

Resistance, as stated by Bovey and Hede (2001); Smith (2005), is a natural and expected part of the change process. Resistance can range from subtle expressions of reluctance and ambivalence, to active opposition, resulting in attempts to impede, destabilise or end the change.

Smith (2005) argues that resistance to change is at times well founded, due to the inadequate thought given to changes or their implementation by those responsible for initiating the change. Trader-Leigh (2002) suggests that resistance can be anticipated when conducting major change programmes that alter the existing order. Alterations to visions and values may gain satisfaction from one group at the expense of another.

Armenakis et al. (1999), as cited by Self (2007), suggest that it is the responsibility of the change leader to guide organisational members to adopt rather than resist change. This can be done by creating readiness to change. As stated by Smith (2005), people are the main source and vehicle to change, so it is desirable to ensure that these people are in a state of change readiness. Armenakis et al. (1999) propose that five elements are necessary to create change readiness. These include: communicating the need for change, demonstrating that the change is the right way forward, ensuring that key personnel are supporting the change, developing confidence that the change can be successful, and verifying how the change will benefit the individual. As highlighted by Self (2007), people rarely resist change that has clear personal benefits. Waddell and Sohal (1998) note however that resistance, rather than being driven solely by parochial self-interest, is a function of various social aspects including rational, non-rational and political factors.

2.3 Job Satisfaction

Mumford (1991) suggests that there is no universal definition of job satisfaction; however, several authors have attempted to describe it. Job satisfaction, as defined by Locke (1969) and cited by Lund (2003), is “*a function of the perceived relationship between what one wants from one’s job and what one perceives it is offering*” (p. 222). Similarly, Davis and Newstrom (1999), as cited by Garcia-Bernal et al. (2005), describe job satisfaction as a

multi-dimensional concept that includes a set of positive or negative feelings by which employees perceive their job.

Herzberg et al. (1959) suggest that for job satisfaction to be experienced, the fulfilment of 'hygiene' and 'motivator' needs must be met. Hygiene needs are concerned with the physical and psychological work environment. Such contextual factors include: company policies, supervision, salary and team relations (Furnham, 2005). Herzberg et al. (1959), as cited in Furnham (2005), propose that the fulfilment of hygiene needs prevent the risk of job dissatisfaction, however they do not lead directly to the experience of job satisfaction. In contrast, motivator needs, which are inherent within the work itself, are required to directly enhance job satisfaction. Motivational factors such as achievement, advancement, responsibility and recognition, promote and facilitate self-actualisation (Maslow, 1954).

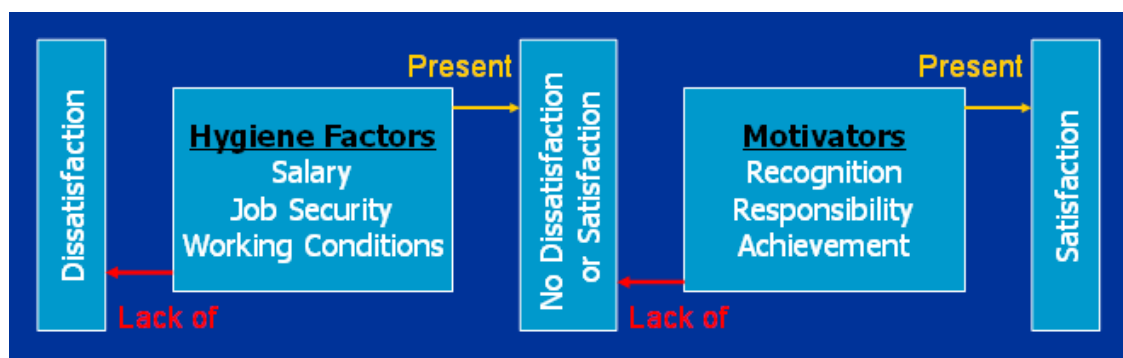


Figure 3: Herzberg's Job Satisfaction Theory (Rollinson, 2002)

The empirical basis of Herzberg's theory has been criticised. Criticisms include that generalisation of the theory outside the American middle class population is limited (Bendian, 1992). In addition, Herzberg's theory can also be explained by classical attribution theory (Heider, 1958), as cited by Buchanan and Huczynski (2004), where personal failure tends to be attributed to external factors (e.g., hygiene needs), and successes attributed to internal factors (e.g., motivator needs).

Mumford's (1994) 'Five-factor Theory' model conceptualises the dynamic relationship between individual and organisational factors when considering job satisfaction. Mumford (1994) suggests that a complimentary 'fit' between the individual and the organisation for

certain factors, including ‘knowledge fit’ and ‘ethical fit’, must occur for employees’ job satisfaction to be optimal.

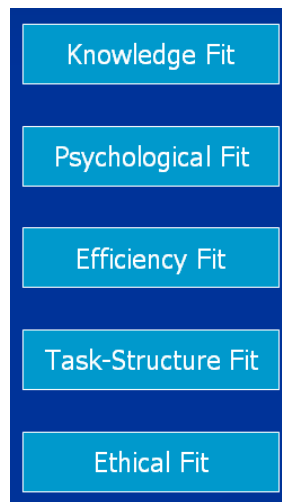


Figure 4: Mumford’s (1994) Five-factor Theory

‘Knowledge fit’ can be achieved, as described by Mumford (1994), if the employee feels that their skills are being effectively used by the organisation, and that their knowledge is being developed by the organisation to make themselves progressively more skilled. The ‘psychological fit’ element of the model suggests that for job satisfaction to be experienced, the organisation must be capable of providing employees with a level of work status that is deemed acceptable to the employee. ‘Efficiency fit’, in Mumford’s (1994) model, refers to the effort versus reward balance. If the organisation is not willing to pay the employee what the employee perceives is rightfully justified, an efficiency fit will not occur, and the employee is less likely to experience job satisfaction. Similarly, ‘task-structure fit’, which refers to the level of demand and fulfilment reaped from the employee when engaging in organisational work, and ‘ethical fit’, which measures the match between organisational and employee values, must be fulfilled in order to optimise job satisfaction.

2.3.1 Job Satisfaction and Change

Change programmes may alter job roles, working relationships and organisational structures and can have a negative impact on an employee’s job satisfaction (Nortier, 1995). Mohram et al. (1998) suggest several factors that may influence, maintain or enhance the level of an

employee's job satisfaction during a period of change. These factors include; clear communication, job enrichment and learning cultures. Spike and Lesser (1996), as cited by Kitchen and Daly (2002), state that communication is a key issue in successfully implementing change programmes, as it is used to announce, explain or prepare people for the positive and negative effects of the change implementation. Job enrichment, as suggested by Kirk et al. (2000), relates to the amount of responsibility and control an employee has over their work. Learning cultures, as noted by Graham and Nafukho (2006), promote employees to be curious and probe for new information which may ultimately lead to improved performance, competitive advantage and organisational innovation. Such factors, if central to a change programme, may enhance employees' job satisfaction, counter-balancing the potentially negative impact of change.

2.3.1.1 Communication and Change

Communication is vital in implementing organisational change (DiFonzo & Bordia, 1998). The importance of clear communication during periods of change has been empirically demonstrated in the research. Proctor and Doukakis (2003), propose that communication provides information and understanding for why change is necessary to those who are the subject of change, helping them to overcome the uncertainty and ambiguity of the process. Covin (1993), as cited by Schalk et al. (1998), similarly suggests that effective communication can take away at least part of the feeling of uncertainty and lack of information about the change, reducing speculation and unfounded fears. Schalk et al. (1998) argue that employees need to perceive a need for change in order to create readiness for change. Without effective communication, as proposed by Barrett (2002), change is impossible and change management fails.

Cavanagh (2001) suggests that clear communication across an organisation is essential for maintaining job satisfaction during periods of change. Reducing the uncertainty level and fear of change through effective communication is therefore likely to positively influence an employee's job satisfaction. Burnes (2004) suggests that the establishment of regular and

effective communication processes can significantly reduce people's levels of uncertainty and anxiety about change.

Proctor and Doukakis (2003) discuss the advantages of early involvement of employees in the change process. Such involvement can include consultation with employees regarding the need and form of the change. Consultation can help to explore employees' fear of change and can enhance their readiness for change. For example, consultation which facilitates ownership of change ideas, can improve employees' perceived levels of control and satisfaction with the change process (Proctor & Doukakis, 2003). In addition, if the benefits of change are actively debated, such discussions can help employees convince themselves of the need for change (Burnes, 2004). Debate concerning the hazards of not changing can generate dissatisfaction with the status quo, driving a desire for change (Proctor & Doukakis 2003).

Throughout change programmes, communication should be regular, making use of formal and informal channels (Burnes, 2004). Formal channels such as notice boards were the most commonly used method for internal communication within companies, as shown by the Industrial Society (1994). The Industrial Society (1994) also suggest that team briefings were deemed the most effective communication method, highlighting the importance of verbal communication.

Verbal, face-to-face communication has been identified as being more effective at generating greater feelings of commitment towards change, compared with written communications (Elving, 2006; Rollinson, 2002). Also, Postmes et al. (2000) as cited by Elving (2006) found that feelings of commitment and appreciation were elicited more strongly through face-to-face communication from senior management, than informal interpersonal communication with peers.

2.3.1.2 Job Enrichment and Change

Mohram et al. (1998) argues that change management programmes should consider communication strategies, job enrichment and organisational culture if employees' levels of job satisfaction are to be maintained during change implementation. Job enrichment concerns job design and the core characteristics of an employee's job role which are crucial elements when considering job satisfaction. For example, in their research involving car production workers, Walker and Guest (1957) as cited by Rollinson (2002) showed that employees can be reasonably satisfied with the job's pay but be extremely dissatisfied with the work itself, demonstrating the importance of job characteristics on general job satisfaction.

Herzberg (1968) suggests that horizontal enlargement of an individual's job, for example, increasing the number and variety of work tasks, and vertical expansion, including, giving an employee greater planning, executions and control of their work, will enhance job satisfaction. Criticisms of Herzberg's theory include "*that there is no such thing as a universally valid prescription for enriched jobs, to which everyone will respond in an equally positive way*" Rollinson (2002, p. 219) and that individual differences are an important moderator of how individuals respond to different job characteristics (Rollinson, 2002).

The job characteristics model developed by Hackman and Oldham (1980) considers the moderating influence of individual differences on job satisfaction. The model suggests that the interaction between specific job characteristics, including skill variety, task identity, task significance, autonomy, feedback, an individual's unique perception of such characteristics, and their personal need for growth, determine critical psychological states which influence perceived levels of job satisfaction.

The critical psychological states include meaningfulness, responsibility and knowledge of results. Hackman and Oldham (1980) suggests that in order for an individual to perceive their work as meaningful, the job must offer skill variety, clearly defined tasks and task significance on others. Enhanced responsibility includes increased autonomy, discretion and control over work outcomes, and the work environment. Knowledge of results is achieved

when an individual experiences a clear understanding and feedback of how effectively they perform (Rollinson, 2002). However, Rollinson (2002) argues that there is an implicit assumption made by the model that individuals are driven by personal growth and that hygiene factors and organisational culture will facilitate experiencing the critical psychological states.

In terms of change management, change initiatives which consider the core characteristics of job roles, and how an individual might experience these moderated by their personal need for growth, may facilitate maintaining job satisfaction and work motivation, in turn enhancing work performance and accelerating the acceptance of change.

2.3.1.3 Learning Culture and Change

In today's rapidly changing business environment, the development of a robust competitive advantage has become an increasingly important aspect for organisational success. As proposed by Dymock and McCarthy (2006), one way of creating a competitive advantage is to develop the skill and knowledge of the organisation's workforce. This can be achieved by adopting and developing a culture of learning within the organisation.

The learning culture of an organisation, as described by Hill (1996), is a constantly changing, multi-faceted organism which draws on the collective energies of the learning conditions of its people. Graham and Nafukho (2006) suggest that a learning culture promotes employees to be curious and probe for new information which may ultimately lead to improved performance, competitive advantage and organisational innovation. To facilitate cultural change, an organisational learning process needs to take place that drives the organisation beyond its current understanding of itself and ways of doing things (Lakomski, 2001). An organisation's learning culture is under constant construction, and moves along an infinite continuum towards a harmonious learning environment (Lopez et al., 2006).

In the context of change management, organisational culture can either support or stifle the process of change implementation within organisations. Schwartz and Davies (1981), as

cited by Senior (2002), state that “*culture is capable of blunting or significantly altering the intended impact of even well thought out changes in an organisation*” (p. 155). For an organisation to be successful, as proposed by Buckler (1996), its capacity to learn must exceed the rate of change imposed on it.

As suggested by Daft (2001), cultures that are supportive of learning can help organisations respond well to external changes in the business environment. Gardiner and Whiting (1997), as cited by Chang and Lee (2007), propose that through organisational learning, the job performance and job satisfaction of employees can be enhanced.

Robbins (2003) suggests that an employee’s job satisfaction level will be at its highest when the organisational culture is congruent with the individual’s demand. For example, an individual with high autonomy and a strong intrinsic desire for personal growth, will have higher job satisfaction under an organisational culture that promotes loose supervision and personal learning.

2.4 Conceptual Model

The review of current academic literature and theory on change management and job satisfaction has enabled the development of a conceptual model. The conceptual model (Figure 5), which draws together key elements linking change management and job satisfaction, will be used to appropriately answer the research question. Each component of the model will now be reviewed in more detail.

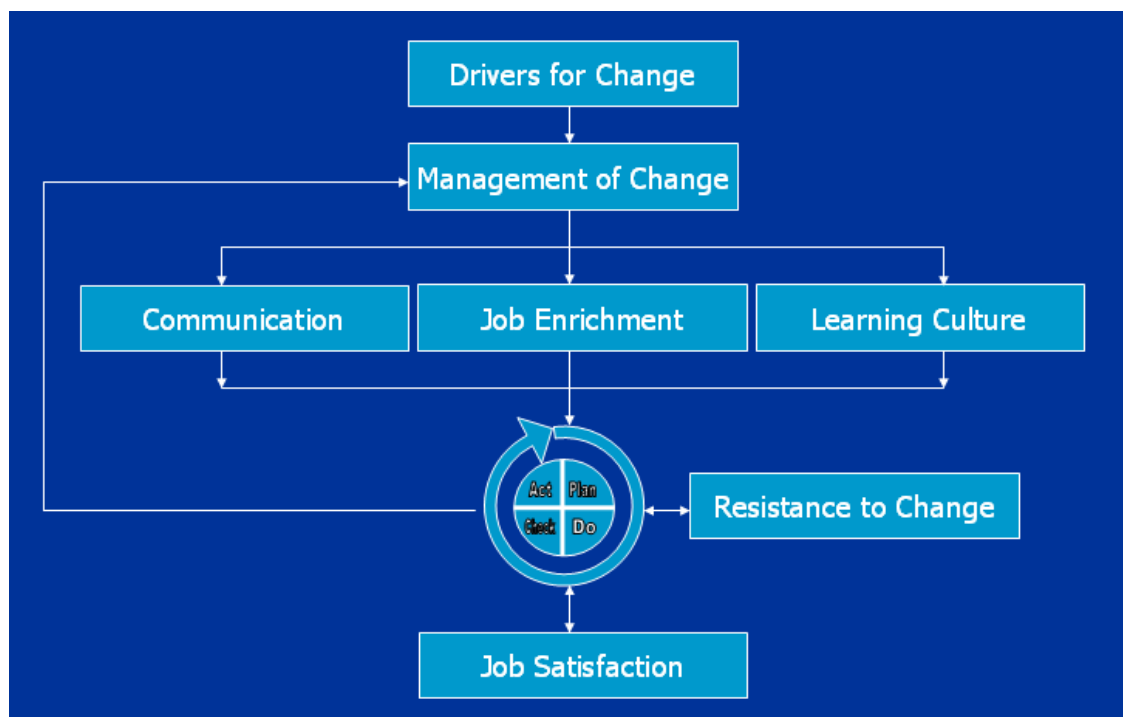


Figure 5: Conceptual Model (Author, 2008)

2.4.1 Drivers for Change

As proposed by Rock and Donde (2008), organisations are experiencing change at an increasingly rapid pace. Landrum et al. (2000) suggest that as business environments become more diverse and competitive, companies must remain diligent and flexible in order to remain competitive. The drivers for business change, as suggested by Kallio et al. (2002), can be diverse and wide ranging. Change drivers may include new legislation, changing economic conditions, technology advancements and alterations in customer demands. Grouping environmental constituents under the mnemonic PEST (political, economic, social,

technological), can help organisations identify factors that may impact the business (Johnson & Scholes, 2002).

Ivancevich and Matteson (2002) agree that PEST factors are important drivers for change but acknowledge that these external forces are beyond management's control. External forces are important to consider as they can cause a considerable shock to an organisation, prompting changes to internal systems and processes. Ivancevich and Matteson (2002) also note that internal forces of organisational change, such as process considerations and human resource issues, which can generally be controlled by the management, can prove more difficult to recognise and diagnose than external forces.

2.4.2 Management of Change

Mastering strategies for managing change is more important today since the rate of change is now faster than ever before (Morgan & Brightman 2001). By understanding the forces acting on a business, organisational management can develop a clear rationale for the need to change and plan for implementing the change. This is commonly encompassed within an organisation's strategic plan. The strategic plan should provide answers to why the change is necessary, and how the organisation attempts to achieve the aims of the proposed change.

Smith (2005) suggests that as people are the main source and vehicle to change, it is advisable to ensure that they are in a state of 'change readiness'. Factors that can generate 'change readiness' include creating a sense of urgency for the change, providing a firm base for the achievement of the change, involving people in the change process and communicating the change purpose (Smith, 2005). Communicating the proposed change and actively involving employees with the change is likely to reduce initial resistance and promote employee satisfaction. As proposed by Yousef (2000), there is a positive relationship between attitudes towards change and employee job satisfaction. Those who are satisfied with various aspects of their jobs are more likely to accept change willingly.

2.4.3 Communication, Job Enrichment, Learning Culture and Job Satisfaction

The conceptual model has so far identified that ‘drivers for change’ are vital for companies to recognise, and adapt to, in order to remain competitive against rivals and secure business survival. Adapting to these changing environmental conditions comes through the ‘management of change’ phase of the conceptual model. Through the development of a strategic plan, the organisation should be able to clearly understand why the need for change exists and how the organisation plans to implement the desired change.

The next phase of the conceptual model looks at communication, job enrichment and learning culture. Smith (2005) suggests that people are the most important source and vehicle for change to occur. Anon (2007) warns however that if employees’ psychological and emotional needs are not met, change initiatives can fail. This can occur if management is overly focused on implementing processes and procedures; and the ‘softer’ side of employee needs are overlooked.

Job satisfaction, as stated by Arnold (1998), is an indicator of a person’s psychological well being. Mohram et al. (1998) suggest that there are several factors that can influence, maintain or enhance the level of an employee’s job satisfaction during a period of change. These factors include communication, job enrichment and learning culture.

Communication, as proposed by Cavanagh (2001), is vital for maintaining job satisfaction during periods of change. Proctor and Doukakis (2003) suggest that clear communication channels will provide information and understanding to those who are subject to the change, thus reducing levels of uncertainty. Burnes (2004) promotes the establishment of regular communication processes to facilitate the reduction of uncertainty levels.

Job enrichment relates to job design and the core characteristics of an employee’s role, which are crucial elements when considering job satisfaction. Herzberg (1968) suggests that job enrichment almost certainly raises levels of job satisfaction amongst employees. Hackman and Oldham’s (1980) job characteristics model refers to ‘critical psychological states’ that can influence perceived levels of job satisfaction. These critical psychological states,

including meaningfulness and responsibility, may provide a way to incorporate improvements into a programme of change, in order to enhance levels of job satisfaction.

A learning culture within an organisation will promote employees to be curious and search out new information which may ultimately lead to improved performance, competitive advantage and organisational innovation (Graham & Nafukho, 2006). Draft (2001) suggests that cultures that are supportive of learning will enable an improved organisational response in dealing with external changes in the business environment. As noted by Cole et al. (2006), change may increase levels of job satisfaction if employees perceive that the change is a chance for them to grow and learn. Robbins (2003) suggests that an employee's level of job satisfaction will be at its highest level when the organisational culture is harmonious with the individual's demands.

2.4.4 Resistance to Change

The notion of 'resistance to change' is widely acknowledged within the change management literature. As highlighted by Cervone (2007), several perspectives exist for why people resist change. For example, resistance can be attributed to misunderstanding the change, having a low tolerance to change or believing that change will generate no personal benefit.

Resistance to change is an important element to consider within the conceptual model. Kegan and Lahey (2001) associate low levels of job satisfaction with unfavourable attitudes towards change. Similarly, resistance to change and low levels of change acceptance, as highlighted by Wanberg and Banas (2000), can decrease levels of job satisfaction amongst workers.

Resistance to change is a natural and expected part of the change process (Bovey & Hede, 2001). Waddell and Sohal (1998) suggest that resistance to change should not be viewed as a negative concept as change does not necessarily generate organisational success. However, as proposed by Armenakis et al. (1999), minimising resistance to change is likely to reduce the failure rate of change initiatives. Beer and Eisenstat (1996), as cited by Pardo del Val

and Fuentes (2003), state that resistance should be considered a source of information that can be used to further develop and improve the change process.

2.4.5 Continuous Improvement

The continuous improvement element of the conceptual model is essential for developing the change process and improving employee job satisfaction. Deming (1986) suggests that business processes should be on a continuous feedback loop in order for staff to recognise and improve areas that require development. Deming (1986) advocates the use of his PDCA cycle to promote and encourage organisational development and continuous improvement.

The conceptual model illustrates that communication, job enrichment and learning culture can lead to job satisfaction. The model suggests however that these key elements, which may influence, maintain or enhance the level of an employee's job satisfaction, can be continuously improved using Deming's PDCA cycle. For example, the initial set up of communication channels to provide information about the change process may require improving. Such improvements may include increasing the number of communication briefings to employees, in order to reduce their level of change uncertainty. Through the implementation of Deming's PDCA cycle, improvements to the change management process can be realised while also promoting enhancements to factors that influence the level of an employee's job satisfaction.

The 'resistance to change' element of the conceptual model also shows that it can be continuously improved using Deming's PDCA cycle. Developing readiness for change can minimise levels of resistance and encourage the adoption of change (Armenakis et al, 1999). Elements that enhance readiness for change, such as communicating the need for change or ensuring that key personnel are supporting the change, should be continuously improved. By improving such factors, the implementation and the management of the change process is likely to become easier and more successful.

2.5 Chapter Summary

This chapter has provided a summary of current academic literature and theory on change management and job satisfaction. The review of literature enabled the development of a conceptual model. Each component of the conceptual model was fully explained and justified within the chapter. The conceptual model, which draws together key elements linking change management and job satisfaction, can now be used to answer the research question within the dissertation.

3 Methodology

3.1 Introduction

This chapter describes the methodological procedures employed to answer the research question. A rationale is offered for the chosen research philosophy, approach, strategy, purpose and time-horizon. Rejected methods are also discussed. Selected data collection and sampling methods are described and issues relating to validity, reliability and triangulation are considered. In addition, consideration of ethical issues and limitations of the research methodology are provided. Overall, the chapter facilitates replication of the research methods employed, supporting the study's reliability (Fink, 2003).

The research for this study was conducted at UPM-Shotton between February and March 2008. The study was fully approved by both UPM-Shotton's General Manager and the Human Resource Director before any data was collected from within the company.

3.2 Methodological Considerations

The conceptual model, shown in Figure 5, demonstrates how the research question has evolved from the research literature. In order to answer the research question, a clear rational for the most appropriate methodology was sought. By considering the conceptual model, and each layer of Saunders et al.'s (2007) research 'onion' model, a clear framework for the most suitable research method and strategies, required to address the research question, were found.

Saunders et al.'s (2007) research 'onion' model initially encouraged the researcher to determine an appropriate research philosophy. The research philosophy promotes consideration on how knowledge should be developed in order to answer the research question. Having decided on a suitable research philosophy, other methodological elements were subsequently considered. Each layer of Saunders et al.'s (2007) research 'onion' are discussed in order to explain why each element was selected, and how this assisted in answering the research question.

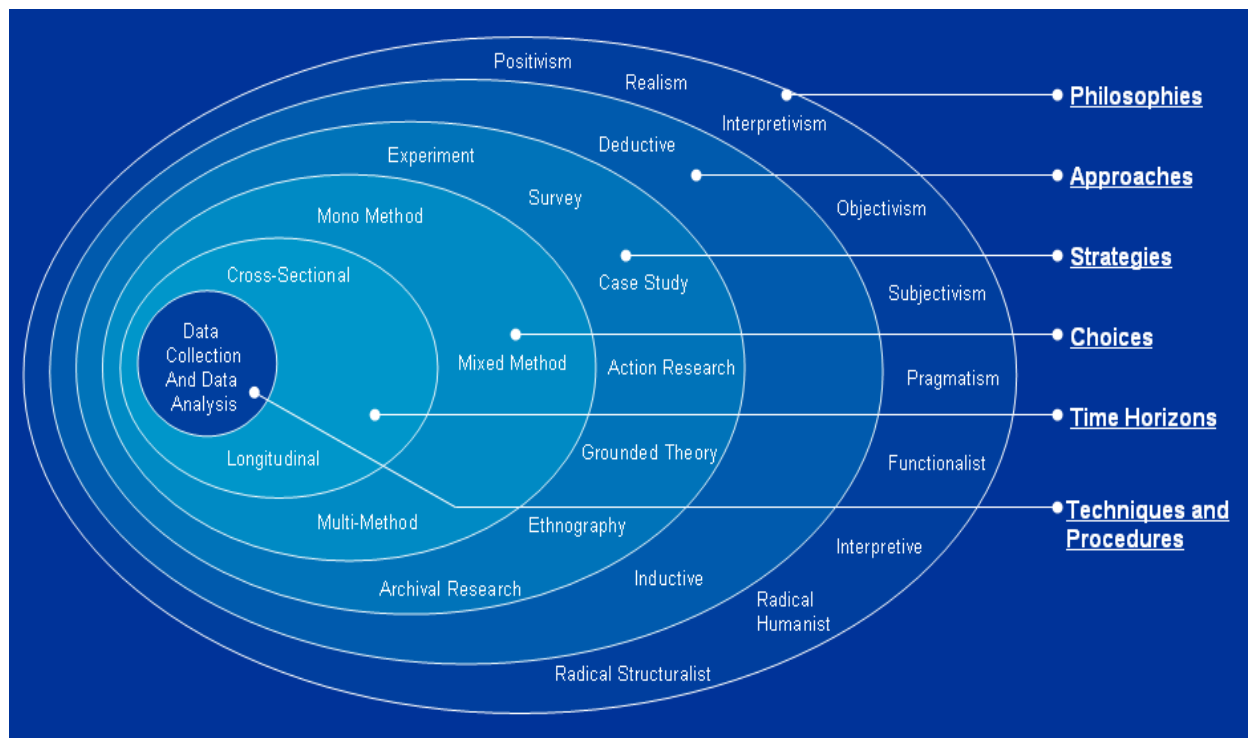


Figure 6: Saunders et al. (2007) 'Research Onion'

3.2.1 Research Philosophy

The outer layer of Saunders et al.'s (2007) research 'onion' refers to the research philosophy. An interpretivist approach was selected which emphasises the necessity for the researcher to appreciate variations between humans and the interpretation of their social role (Saunders et al., 2007). However aspects of a positivist philosophy were also incorporated in the current research philosophy, including quantitative methods and statistical analysis, to improve the generalisability of the findings.

3.2.2 Research Approach

The second layer of Saunders et al.'s (2007) research 'onion' refers to the research approach. A combined approach, using both inductive and deductive elements, was used for this study. In general terms, an inductive approach was used to examine themes and categories that emerged from the research data. The emergent themes allowed for the development of appropriate research theories and recommendations. Elements of a deductive approach were also integrated into the research, with existing theory being used to formulate the conceptual model. Employing the deductive approach enhances the generalisability of the research (Saunders et al., 2007). In addition, the use of structured questions and quantitative data improved the reliability and validity of the findings. This combined approach was used because the researcher was interested in understanding why between-group differences occurred, as well as identifying what differences were occurring between-groups.

3.2.3 Research Strategy

The third layer of Saunders et al.'s (2007) research 'onion' refers to the research strategy. A holistic case study strategy and survey methods were used to investigate the research question and aims. Surveys allow the collection of large amounts of data from a large population efficiently and economically. This strategy allows for the collection and analysis of quantitative data using descriptive and inferential statistics. The quantitative data collected was used to formulate reasons for relationships between variables. Sampling methods can generate findings that are representative of the whole population (Saunders et al., 2007).

3.2.4 Research Choice

The fourth layer of Saunders et al.'s (2007) research 'onion' model refers to research choice. 'Mixed-method' research was chosen for this study as it incorporated the use of both quantitative and qualitative data collection techniques. As proposed by Saunders et al. (2007), a major advantage of using mixed-methods over mono-methods, is that triangulation can take place.

3.2.5 Time-horizon

The fifth layer of Saunders et al.'s (2007) research 'onion' refers to the research time-horizon. Given the time constraints for this study, a cross-sectional research design was chosen to provide a 'snap shot' of current levels of job satisfaction and change processes at UPM-Shotton.

3.2.6 Research Purpose

The purpose of the research was to investigate which factors influence levels of job satisfaction amongst employees involved in a change programme, compared with levels of job satisfaction of employees not involved in a change programme, within a manufacturing environment. In order to answer the research question, a conceptual model was formulated from existing literature on change and job satisfaction. Typical to exploratory research, the survey questionnaire evolved from responses from the semi-structured interviews. An explanatory approach was also adopted, which involved correlational analyses, to explain the relationship between variables.

3.2.7 Rejected Methods

When determining the most appropriate research methodology to use for this study, several research designs were initially considered, and subsequently rejected. The rejected methodologies, and the rationale for their elimination, are now discussed.

Elements of a positivist philosophy were included in the research to enhance the generalisability of the findings. However, a dominant positivist philosophy was rejected, as constructing law-like generalisations would overly simplify the complexities of organisational behaviour.

A wholly deductive approach was deemed inappropriate for this study and was therefore rejected. A deductive approach requires the development of an initial theory and hypotheses which are subjected to thorough and rigorous testing (Saunders et al., 2007). The author believed that the current study did not require an initial theory for testing to answer the research question. A combined approach was therefore selected as it provided both inductive and deductive elements.

A longitudinal study design was considered to compare levels of job satisfaction, and factors influencing job satisfaction, over the course of the change programme. However, this approach was rejected due to time constraints of the research study. In addition, the use of secondary data was deemed impractical as no historical questionnaire data was available from the organisation that was directly comparable to the primary data.

A mono-method procedure was considered for the research, which would use a single data collection technique and corresponding analysis. This method was rejected however in favour of mixed-method research which uses both quantitative and qualitative data. As previously stated, the advantage of using multi-methods over mono-methods is that triangulation of different data collections techniques can take place.

3.3 Research Procedures

3.3.1 Data Collection Methods and Triangulation

Triangulation was demonstrated through the use of different data collection techniques, which enhanced the validity of the information gathered. Triangulation is described as the combination of two or more methods of data collection, when studying the same phenomenon. The advantage of triangulation, as described by Jack and Raturi (2006), is that

complementary methods will counterbalance the inherent weaknesses of one approach with the strengths of another. Within this study, semi-structured interviews were initially carried out to identify UPM-Shotton's approach to change management and to explore aspects of job satisfaction. Saunders et al. (2007) note that qualitative research data from semi-structured interviews can limit the generalisability of the findings. To overcome this, the semi-structured interviews were followed by a survey questionnaire. The survey questionnaire was handed out to the appropriate groups for completion. Participants also completed a standardised questionnaire to measure their perceived level of job satisfaction.

3.3.2 Semi-Structured Interviews

In order to gather views on change management and job satisfaction within UPM-Shotton, it was deemed appropriate to conduct semi-structured interviews. Semi-structured interviews were seen as an appropriate initial method of data collection, providing opportunity to probe and explore interviewees' ideas and perceptions of the key themes of the conceptual model, whilst allowing exploration of emerging themes not previously considered in the conceptual model, therefore adding significance to the data (Saunders et al., 2007).

To counteract potential sources of bias and to enhance the reliability of the qualitative data collected, a standardised information sheet (Appendix 1) was given to potential participants to read, 24 hours before the interview. In addition, participants were also asked to sign a consent form (Appendix 2) in keeping with the ethical considerations of the study. An open question style was used throughout the interview which encouraged participants to respond openly to the questions. The interviewer was also mindful of non-verbal communication when conducting the interviews. In total, eight interviews were carried out between the 14th of February and the 22nd of February 2008.

When conducting the semi-structured interviews, an 'active follow-up strategy' was used. This strategy involved asking participants introductory open questions based on the key themes of the conceptual model, followed by prompting questions to provide further exploration and focus of an area of significance (Saunders et al., 2007). Kvale's Process

Typology, as cited in Wengraf (2001), was adhered to when designing the follow-up questions, which included specifying questions to source precise descriptions or experiences, and interpretive questions to clarify the interviewer's understanding of the interviewees' responses.

The interview data was analysed using King's (2004) template analysis approach, as cited by Cassell and Symon (2004). Template analysis was selected as an appropriate method as its flexibility combined both the deductive approach with data categorisation being predetermined, based on the conceptual model and existing theory, and the inductive approach with emerging themes being inserted into the coding hierarchy. Template analysis advocates a hierarchical method of categorising and coding of the data. Initially the main categories and sub categories were based on the conceptual model. As the interview data collection progressed, further categories emerged which were inserted into the hierarchical framework. Analytical linkages between different categories were observed and interpreted. The hierarchical coding system allowed the data to be systematically and rigorously analysed (Saunders et al., 2007).

Patton's (1990) 6 x 3 Checklist of Possible Questions was used by the researcher to help identify appropriate questions for the research. The questions and themes used for the semi-structured interview can be found in Appendix 3. The following section describes the rationale for why each question was posed.

Questions on Change:

Question 1 was designed to elicit the interviewee's opinion on the management of major change initiatives within UPM-Shotton.

Questions 2 and 3 drew on the interviewee's knowledge of previous change initiatives and identified whether these changes were planned or emergent. This provided an indication of how previous change initiatives had been managed.

Questions 4 and 5 were designed to discover whether the interviewee believed that change was driven from ‘top-down’ or ‘bottom-up’ within the organisation, and how involved they have felt with current or previous change initiatives.

Question 6 ascertained whether resistance to change was experienced during previous or current change initiatives within UPM-Shotton, and how resistance to change was managed.

Questions on Job Enrichment:

Question 7 gave respondents an opportunity to identify and reflect on how the TPM implementation had impacted or changed the core characteristics of their job role.

Questions 8 and 9 sought to identify if respondents perceived that the meaningfulness of their work tasks had changed, in terms of skill variety and task significance, during the TPM change programme.

Questions 10 and 11 investigated how the TPM initiative had impacted on the interviewee’s autonomy over work task scheduling and their perceived responsibility of work outcomes.

Question 12 explored how the change programme provided employees with feedback on how effectively they perform.

Questions on Learning Culture:

Question 13 was asked to clarify how the employee perceived the organisational culture. For example, was there dominance of a learning culture, a blame culture or of sub-cultures?

Questions 14 and 15 identified what types of learning experience were encouraged and supported. For example, planned learning (teaching and training), unplanned (self directive learning), systematic problem solving, experimentation, learning from others and transferring knowledge through the organisation.

Question 16 identified how the respondent believed the organisation measures learning.

Questions on Communication:

Questions 17 and 18 explored the types and variety of communication methods that had been experienced and valued by the employee regarding the TPM change programme. Research has shown that verbal and face-to-face communication is particularly valued by employees during change programmes (Elving, 2006).

Question 19 investigated whether the respondent believed that employees had experienced involvement, in the early stages of the change process implementation.

Question 20 identified the employee's view on the current communication processes employed. Burnes (2004) suggests that the establishment of regular and effective communication processes can significantly reduce people's levels of uncertainty about change.

Having conducted the semi-structured interviews, the design of the survey questionnaire could then proceed. The following section describes how this was carried out.

3.3.3 Survey Questionnaire

In order to gather the required data on change management and job satisfaction from UPM-Shotton employees, a survey questionnaire was developed. The design of the survey questionnaire was aided by the literature review and from the semi-structured interview responses. A survey questionnaire was deemed appropriate for this study as it would allow the data, from both sample groups, to be collected in a quick and efficient manner. The use of survey questionnaires, as proposed by Saunders et al. (2007), allows the analysis of quantitative data using descriptive and inferential statistics. The data obtained can also be used to suggest possible relationships between variables.

Appropriate closed questions were selected for the survey questionnaire. The advantage of using closed questions is that responses would be more reliable and lend themselves more readily to statistical analysis. Open questions were not selected for the survey as they can prove to be very difficult to compare and interpret (Fink 2003). As proposed by Dillman (2000), three types of data variable exist when collecting information through questionnaires. These include opinion, behaviour and attribute data. The designed survey questions contained all types of data variable, although opinion data was the dominant variable. Using Saunders et al.'s (2007) questionnaire 'checklists', the wording and order of questions in the survey were modified to align with the recommendations. Also, in terms of the questionnaire being understood by respondents, Foddy's (1994) 'constructing questions' process, as cited by Saunders et al. (2007), was closely followed to ensure the validity and reliability of the questions within the survey questionnaire.

To improve the reliability of the quantitative data and to reduce the sources of bias, a standardised information sheet was given to all survey participants to read, 24 hours before the questionnaire was handed out. Each self-administered questionnaire was delivered by hand to each respondent and collected as soon as it had been completed. In total, 78 survey questionnaires were completed between the 31st March and the 13th April 2008.

The following section describes the rationale for why each question in the survey questionnaire was posed.

Demographic Questions

Questions 1, 2, 3 and 4 provided basic demographic data concerning the respondents of the survey and standardised questionnaires. The collected data allowed for between-group comparisons to be made in relation to gender, age, length of service and the job role of participants.

Questions on Job Enrichment

Questions 5, 6 and 7 identified the respondents' critical psychological states. As proposed by Hackman and Oldham (1980), meaningfulness, responsibility and knowledge of results are critical psychological states that influence levels of employee job satisfaction.

Questions on Learning Culture

Question 8 determined if respondents believed that UPM-Shotton's current culture is supportive of learning. Chang and Lee (2007) suggest that a supportive learning culture within an organisation can improve the job performance and job satisfaction of employees.

Question 9 assessed the level of motivation respondents had to learn and use new skills at work. As stated by Herzberg (1966), as cited by Cooper et al. (1998), motivators such as skill use and job challenge can enhance satisfaction levels.

Question 10 established whether respondents believed that the TPM change programme could provide them with opportunities to learn and acquire new skills. Change may increase levels of job satisfaction if employees perceive that the change is a chance for them to learn and grow (Cole et al., 2006).

Questions on Change

Question 11 drew out the level of involvement the respondent had experienced through the initial stages of the TPM programme. Early involvement of employees in the change process can be advantageous (Proctor & Doukakis, 2003). For example, consultation can improve employees' perceived levels of control and satisfaction with the change process.

Question 12 evaluated the level of confidence that the respondent had for the success of the TPM change programme. As suggested by Armenakis et al. (1999), developing confidence that the change can be successful, is likely to improve change readiness and the ability to adopt change.

Question 13 determined how much support respondents believed was given to the TPM programme by key organisational personnel. Armenakis et al. (1999) and Smith (2005) suggest that for effective management of change to occur, the support of key personnel is vital.

Questions on Communication

Question 14 assessed how internal communications had developed respondents' understanding, in terms of the need and benefits of TPM. Understanding the reason why change is necessary helps people to overcome the uncertainty and ambiguity of the process (Proctor & Doukakis, 2003). This is highlighted on the conceptual model under 'drivers for change', 'change management' and 'communication'. In addition, Cavanagh (2001) links clear communication and low uncertainty levels with increased job satisfaction.

Question 15 explored the perceived frequency of face-to-face communication from senior management, regarding the TPM change programme. Themes from the semi-structured interviews suggest that face-to-face communication from senior management is particularly valued within UPM-Shotton. This was reinforced in the research by Elving (2006) who suggested that feelings of appreciation and commitment were elicited more strongly through face-to-face communication from senior management than informal interpersonal communication with peers. The correlation between the perceived frequency of senior management communication and job satisfaction levels were explored in the findings.

Question 16 evaluated the perceived effectiveness of various TPM communication methods within the mill.

Question on Continuous Improvement

Question 17 discovered if respondents perceived that continuous improvement could encourage and develop organisational change within UPM-Shotton. This supported the addition of Deming's (1986) PDCA cycle within the conceptual model.

3.3.3.1 Pilot of Questionnaire

Prior to using a survey questionnaire to collect data, Saunders et al. (2007) advise that the questionnaire should be piloted. The purpose of piloting the questionnaire is to check that respondents do not experience problems in understanding or completing the questionnaire. The feedback received from respondents during the piloting phase allowed for suggested questionnaire improvements to be made before undertaking the study's main data collection phase. An evaluation of the collected pilot data also provided an appraisal of the questionnaires' validity and the probable reliability of the data collected (Saunders et al., 2007).

The questionnaire was piloted on the 28th of March 2008. As supported by Fink's (2003b) suggestion, a minimum of ten people were asked to complete the pilot questionnaire. Once respondents had completed the pilot questionnaire, they were then asked for their feedback. For example, respondents were asked to evaluate the clarity of the questionnaire's instructions, the relevance of specific questions and the overall layout of the questionnaire. As suggested by Bell (2005), respondents' opinions on major topic omissions and length of time taken to complete the questionnaire were also sought.

The feedback received from respondents during the pilot phase of the questionnaire provided the researcher with an opportunity to make improvements to the questionnaire, in readiness for the main data collection phase. Several improvements were made, including, rewording question 7 to improve the question's clarity, replacing dark coloured text shading with lighter colours to improve readability of instructions, and increasing the space between questions 18 to 39, to improve overall layout. Despite reservations from the researcher that the newly enhanced questionnaire would be six pages long, respondents were content as the questionnaire remained 'quick and easy' to complete.

3.3.3.2 Sampling Group

In order to answer the research question, suitable research data was first collected. A census, which collects data from every case or group member, was discounted for this study due to the time constraints. Different sampling techniques were considered until the probability approach was selected as the most suitable option. As noted by Saunders et al. (2007), probability sampling is generally associated with survey-based research strategies and can be divided into four main process stages. These include, identifying an appropriate sampling frame, deciding the sample size, selecting a suitable sampling technique and checking that the sample is representative of the population (Saunders et al. 2007).

The sample frame for this study consisted of the complete list of current UPM-Shotton employees. The accurate and up-to-date list of 405 names was provided to the researcher by a member of the Human Resources department at UPM-Shotton. With reference to the study's research question, the selected sample group consisted of employees actively involved with the TPM change programme (Group 1 members) and employees not yet actively involved in the change programme (Group 2 members).

Using selective sampling (for Group 1) and a stratified random sampling technique (for Group 2), an appropriate sample was established. Group 1 members were automatically selected for the sample through their active involvement in one of the TPM change programme teams, including the 5S team, Focused Improvement team, Autonomous Maintenance team and the Professional Maintenance team. In total, thirty names were selected for Group 1 as this incorporated all 'actively involved' members. Group 2 members were selected for the sample by initially assigning each name with a unique number. Using Morris's (2003) random numbers table, as shown in Saunders et al. (2007), forty-eight names were selected. This provided a total sample of seventy-eight respondents from both Group 1 and Group 2.

To ensure that the sample was representative and statistically significant of the total population, a calculation was required to establish the minimum sample size. As recommended by Saunders et al. 2007, the following formula, which incorporates all the essential elements for accurately determining the minimum sample size, was selected.

$$N = \frac{p\% \times q\% \times [z]^2}{e\%}$$

Where:

- N = minimum sample required.
- p% = the proportion belonging to the group.
- q% = the proportion not belonging to the group.
- z = the z value corresponding to the level of confidence required.
- e% = the margin of error required.

The minimum sample size based on a 95% level of confidence (z value of 1.96) was 86. Where the population is less than 10 000, an adjusted minimum sample size can be calculated without affecting the accuracy of the study (Saunders et al., 2007). The adjusted minimum sample size was therefore calculated as being 78.

3.3.4 Standardised Questionnaire

Standardised questions, taken from Cooper et al.'s (1987) Occupational Stress Indicator (OSI), were incorporated into the survey questionnaire (questions 18 to 39) in order to measure the job satisfaction of respondents. Roberston et al. (1990) indicate that the measure of job satisfaction within the OSI shows acceptable validity. As described by Arnold et al. (1998), the questions and statements of the OSI ask respondents to rate how they think and/or feel about their job as a whole (global job satisfaction), and about particular aspects of the job itself (job facet satisfaction). The standardised questionnaire used Likert scaling to provide the researcher with definitive measures of respondents' job satisfaction levels. The measured job satisfaction levels of both Group 1 and Group 2 respondents are shown and compared in Chapter 4.

3.4 Ethical Considerations

The ethical implications of the research, that could adversely affect participants and the organisation, were carefully considered when planning the research design and methodology. The research methodology was therefore adapted in line with suitable ethical principles. Appropriate action was taken concerning informed consent, the right of respondents to withdraw, the protection of anonymity, practitioner-researcher issues, the potential distress of participants and the personal safety of the researcher.

Informed consent was obtained from participants by ensuring that they had access to the project information sheet (Appendix 1) prior to their participation in the research. In addition, participants of the semi-structured interviews were asked to sign a consent form (Appendix 2) which emphasised the voluntary nature of the research, and the participants' right to withdraw at any point. Participants were also made aware that they had the opportunity to ask questions, at anytime, throughout the research process.

When recruited to the research, participants were informed that their responses would be treated with confidentiality. The questionnaires were anonymous to protect the identity of participants and to encourage open and honest feedback. After the completion of each questionnaire, the researcher ensured that participant feedback was promptly written-up and securely stored on the researcher's computer, with password protection.

Interviews and questionnaires can be intrusive and may provoke anxiety and stress in participants (Saunders et al., 2007). A point of contact was therefore identified in occupational health where participants, if distressed, could be offered information by the researcher about accessing the appropriate help.

The personal safety of the researcher was also considered during the data collection phase. The researcher was aware not to divulge any personal information, such as home address or private telephone number, to participants during the study. The overall risk to the researcher's safety was deemed extremely low given that all participants were employees of UPM-Shotton and that all questionnaires were conducted during daylight hours.

3.5 Analysis of Data

This study analysed the obtained data using both descriptive and inferential statistics. As stated by Fink (2003c), “*statistics is the mathematics of organising and interpreting numerical information*” (p. 25). Descriptive statistics, such as data ranges and means, provided simple summaries of the immediate data while inferential statistics, such as correlation analysis, were used to develop conclusions that extend past the immediate data.

The raw data, initially collected from the survey and standardised questionnaires, was transferred and recorded on to an Excel spreadsheet. A selection of this collected raw data is shown in Appendix 4. The data gathered, from Group 1 and Group 2, was then analysed using appropriate statistical analysis tools within Excel’s data analysis ‘Toolpak’. Excel’s Toolpak was chosen over other computer-based statistical analysis programmes, such as SPSS, SAS or Stata, as it was commonly used by the researcher and was deemed powerful enough to undertake the required analysis. Disadvantages of the Excel software, such as the lack of regression diagnostics and hierarchical regression features were considered, but deemed non-critical for this study.

When selecting the most relevant statistical analysis tools to use within the study, the researcher initially determined whether the data provided by each question was nominal, ordinal or numerical. Following this, dependent and independent variables were then identified. As noted by Fink (2003c), the choice of method for analysing survey data is dependent on the type of data available and the number of dependent and independent variables involved.

The data collected from the survey questionnaire consisted largely of numerical, dependent and independent variables. To appropriately analyse this data, the researcher selected Student’s t-test and Pearson’s product moment correlation coefficient (PMCC). Student’s t-test was selected to analyse between group differences concerning the dependent variables. As highlighted by Hays (1994), as cited by Saunders et al. (2007), the requirement of normal distribution and equal variance between groups, when conducting a t-test, can be ignored if the two samples are of similar size. Pearson’s PMCC was selected to measure the strength of

correlation between respondents' job satisfaction levels and elements of the survey questionnaire. Descriptive statistics, such as means, standard deviations and ranges were also used to analyse the data. In addition, appropriate tables and charts were produced to further illustrate the research findings.

3.6 Chapter Summary

This chapter has described the methodological procedures that were used to answer the research question. Clear justification has been offered explaining the reasons for selecting the research philosophy, approach, strategy, purpose and time-horizon for the project. In addition, rejected methods were also considered and explained. Data collection methods and triangulation were discussed and relevant issues relating to the study's reliability and validity were considered. A clear rationale was then specified for each selected question in both the semi-structured interview and the survey questionnaire. The appropriate sample size was calculated for the study and ethical considerations were noted. Finally, the methods selected for conducting data analysis in Chapter 4 were fully explained and justified. Chapter 4 now follows.

4 Findings

4.1 Introduction

This chapter presents the findings of the research, including the qualitative data from the semi-structured interviews and the quantitative data from both the survey and standardised questionnaires.

The findings from the semi-structured interviews relate to the views of selected UPM-Shotton employees on change management and job satisfaction, and are expressed using descriptive analysis and direct quotes where appropriate. The findings from the survey and standardised questionnaires are deduced using the analytical methods described in section 3.5. The calculated results are then described and illustrated using appropriate tables and charts.

Please note that this chapter (Chapter 4) does not draw any conclusions on the results shown. The conclusions to the findings are shown exclusively in Chapter 5.

4.2 Findings from Semi-Structured Interviews

Semi-structured interviews were deemed an appropriate method for collecting data as they gave the researcher an opportunity to probe and explore interviewees' ideas and perceptions of the key themes of the conceptual model. As previously stated, the semi-structured interviews also allowed for the exploration of emerging themes not previously considered within conceptual model. Eight semi-structured interviews were carried out between the 14th of February and the 22nd of February 2008. The selected interviewees were from a mixture of disciplines, including operations, research and development, engineering and finance, and were at varying levels of seniority within the organisation.

4.2.1 Change Management

The respondents of the semi-structured interviews believed that UPM-Shotton had used both planned and emergent change management processes over recent years. As suggested by Interviewee 3, "*the nature of the change determines the process that is followed*". Examples of both planned and emergent changes were provided by each interviewee. Interviewee 6 believed that employees within UPM-Shotton preferred the "*short, sharp shock of project work*" (planned change) over "*the daily grind of continuous change*" (emergent change). Interviewee 2 however suggested that many of the most successful changes within the organisation have 'emerged' over time by 'stealth'. An example of this was given relating to the reduction of the workforce at UPM-Shotton, without the need for making redundancies.

The general consensus amongst respondents on 'who is responsible for driving change within UPM-Shotton' was highlighted to be the members of the mill management team (MMT). Interview respondents believed that MMT members were fully responsible for recognising relevant drivers for change within the external business environment and for the overall outcome of the selected change initiatives. Interviewee 1 highlighted however that change initiatives within UPM-Shotton are generally lead by second line managers (SLM) who then report the progress made to the relevant MMT level manager.

Similarly, all respondents of the semi-structured interviews believed that change ideas could be generated from anywhere within the organisation. To have these change ideas implemented however, required the backing and commitment of MMT members. As suggested by Interviewee 8, "*lots of great ideas come from all areas of the mill but must be adopted and given the stamp of approval from the top, before the idea can be given a chance of success*".

In relation to the management of change, respondents were asked how they believed resistance to change was managed. Interviewee 5 believed that "*resistance is actively managed and always considered*". Conversely, Interviewee 2 did not recognise an 'active strategy' for dealing with resistance and questioned whether senior management carried out any sort of learning review when confronted by resistance. Interviewee 3 stated that

resistance is an expected part of any change and suggested that if a change occurred without any resistance, "*questions would be asked!*" Several examples of how management at UPM-Shotton had positively overcome resistance to change were provided by respondents. The emerging theme suggested that clear communication, consultation, involvement and active listening were key elements used to reduce or eliminate resistance to change.

4.2.2 Job Enrichment

Respondents were asked whether the TPM change programme had impacted upon their current job role. Interviewee 7 suggested that TPM had simply increased everyone's workload, but could understand that a "*short term pain*" may be required to achieve the "*longer term gain*". Of the eight semi-structured interviews carried out, only two respondents believed that the TPM programme had impacted upon the core characteristics of their job role. However, Interviewee 5 believed that the TPM change programme had provided them with the opportunity to use different skills and work with a variety of different people. Interviewee 2 highlighted the positive benefits of team learning and feedback, and stated that "small working groups tend to promote cross fertilisation of knowledge - each group member brings something different to the team, so we can all learn something new". Similarly, as suggested by several of the respondents, personal responsibility for successfully completing work tasks is heightened when working in TPM groups. "*Nobody wants to be viewed as the weakest link of the team, so a clear desire exists to make sure the group achieves its goals*" (Interviewee 4).

During the semi-structured interviews, respondents were asked to review several other aspects of job enrichment. For example, respondents were invited to evaluate whether they believed that the TPM change programme had increased the significance of their work tasks, in terms of impacting on the work or lives of other employees. Interviewee 7 believed that several of the TPM project groups had made a positive contribution to improving the work lives of several UPM-Shotton employees; "*The 5S team have provided the wrapline operators with a much improved environment to work in and have helped solve some of the chronic problems that were making their lives hell*". Interviewee 6 also believed that the change programme had positively increased the significance of their work tasks on others.

Through the newly implemented TPM auditing process, Interviewee 6 was able to provide support, guidance and understanding to employees keen to pass an audit. Once the audit was successfully completed, the message of a job well done could be communicated thus enhancing the self esteem of the people involved.

4.2.3 Learning Culture

When respondents were initially asked to describe the overall culture of UPM-Shotton, relatively negative responses were attained. Interviewee 4 described the culture as “*confused, insecure and bitter, with pockets of acceptance in places*” while Interviewee 3 suggested that UPM-Shotton’s culture was “*sceptical, cynical and apathetic*” and that employees ran from “*one problem to the next in fire-fighting mode*”. In addition, Interviewee 2 proposed that the management culture at UPM-Shotton was “*dictatorial rather than consultative*” and that “*debate takes preference over action!*” Despite the many negative aspects highlighted by respondents of UPM-Shotton’s current culture, Interviewee 5 believed that some positive elements, including learning, exist within the culture.

As suggested by Interviewee 5, “*learning is fully engrained within the UPM management structure and organisational vision*” (under ‘skilled and motivated people’). Several examples exist to support this view, including, the Personal Performance Review (PPR) system, Investors in People (IIP) accreditation, in-house computer based learning programmes and numerous internal and external training courses. Despite this, Interviewee 6 supported the notion that “*learning is encouraged but there is a lack of support from many managers*”. Similarly, Interviewee 1 noted that “*UPM-Shotton is committed to training and learning but does not have the procedures and processes in place to support it at the moment*”.

Within the semi-structured interview, respondents were asked how they thought knowledge was transferred throughout the organisation. Most of the interviewees believed that many of the knowledge transfer processes currently used at UPM-Shotton were informal and unstructured. Interviewee 8 suggested that Standard Operating Procedures (SOP) and One Point Lessons (OPL) combined with skills matrices and training records may help to

formalise and improve the way knowledge is transferred within the organisation. Respondents also believed that understanding the impact and value of the transferred knowledge was important. Interviewee 7 believed that *“no robust process is currently in place to evaluate organisational learning within UPM”*. As suggested by Interviewee 2, *“basic attempts to evaluate training have been created but measuring the benefit analysis of somebody’s learning is almost impossible!”*

4.2.4 Communication

Respondents of the semi-structured interviews were asked how the TPM change programme had initially been communicated to them. Six of the interviewees recalled that the then Operations Director had sat with them individually to explain the TPM change programme face-to-face, whereas two interviewees had received the TPM communication through a formal presentation held during a training and communication day (T&C). When asked their opinion on the most effective form of communication channel, all respondents believed that face-to-face communication was the most effective. As proposed by Interviewee 4 *“face-to-face communication creates interaction and gets people involved”*. UPM-Shotton currently uses a wide variety of communication channels to promote the TPM change programme across the organisation. Methods used have included, face-to-face discussions using communication boards, formal presentations, informal discussions, notice boards, e-mail, leaflets, newsletters and the intranet.

Within the semi-structured interview, respondents were also asked to evaluate the level of involvement they and other employees had experienced in the early stages of TPM implementation. In terms of TPM involvement, Interviewee 5 stated that *“lots of management were heavily involved at the beginning while lots of other staff only skimmed the surface”*. Similarly, Interviewee 6 suggested that *“most people within the organisation are TPM bystanders”*. The variation of employee involvement was derived through the implementation of the ‘pilot phase’ of the TPM change programme. Employees selected on the initial ‘pilot phase’ of the programme experienced greater amounts of relevant communication, relating to the TPM change programme, than employees not selected or involved in the pilot phase.

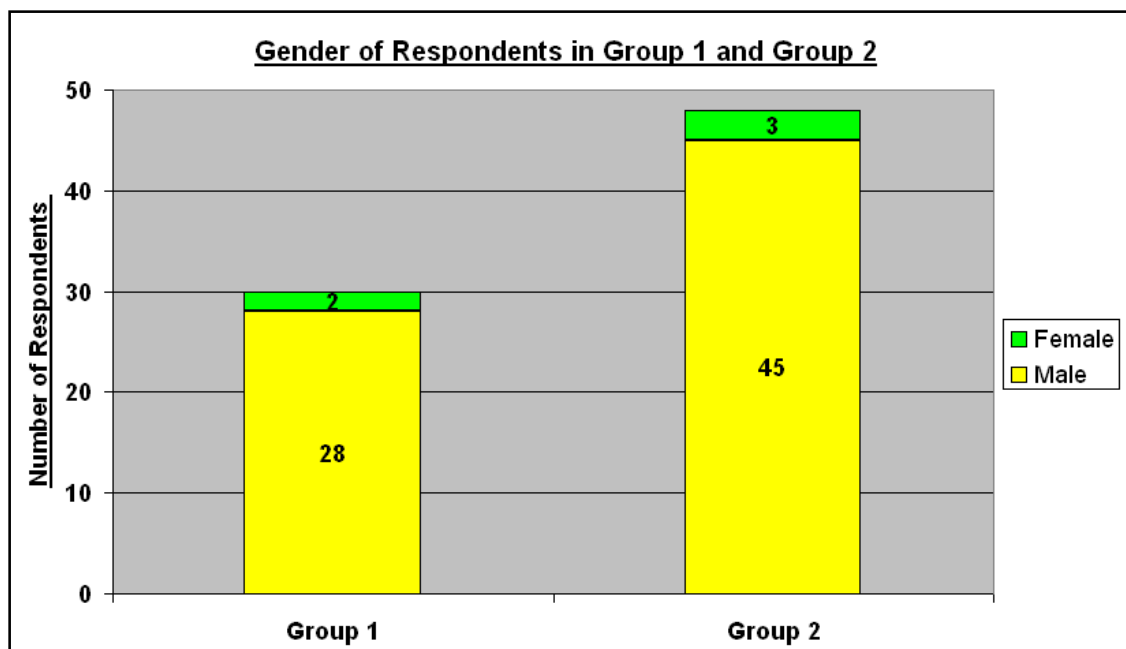
4.3 Findings from Survey Questionnaire

4.3.1 Demographic Data

The following section illustrates the demographic data collected from the survey questionnaire. (Questions 1 to 4)

Chart 1 shows the number of males and females in Group 1 and Group 2. The total sample (N=78) consisted of 73 males (94%) and 5 females (6%).

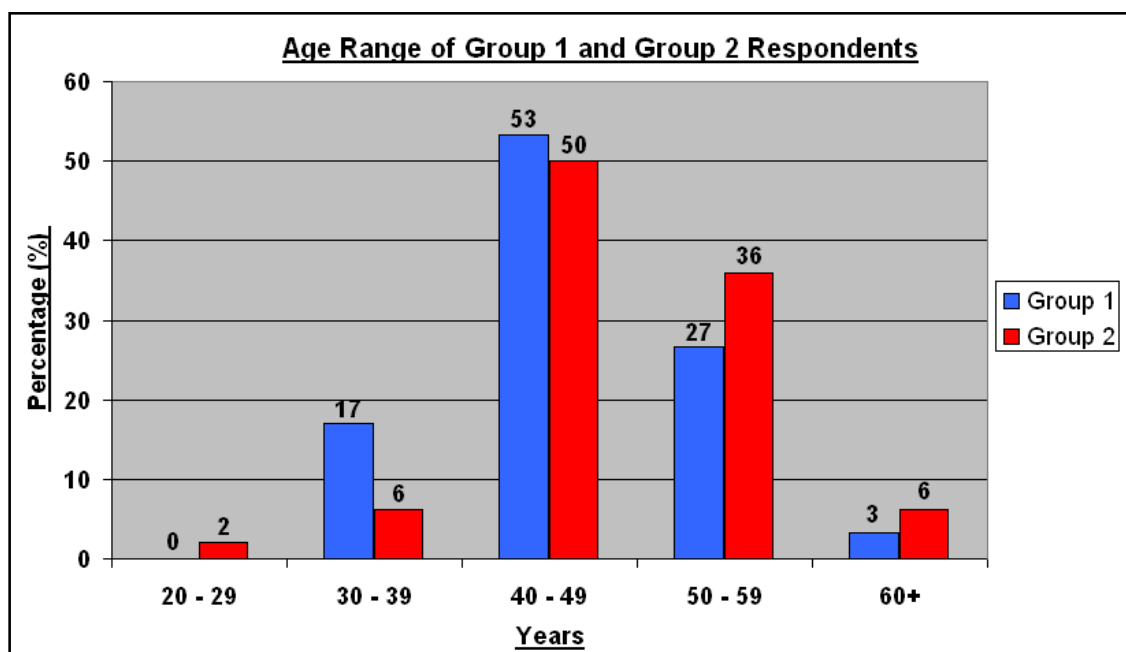
Chart 1



Source: Job satisfaction and change questionnaire findings (Author, 2008)

Chart 2 illustrates the age range of respondents in Group 1 and Group 2. The Group 1 sample (N=30) demonstrates that the greatest proportion of survey respondents were aged between 40 and 49 years (53%). The mean age of Group 1 respondents was 47.13 years (SD=6.73), ranging from 33 to 61 years. The Group 2 sample (N=48) shows that the largest proportion of survey respondents were also between 40 and 49 years of age (50%). The mean age of Group 2 respondents was 49.10 years (SD=6.77), ranging from 28 to 62 years.

Chart 2

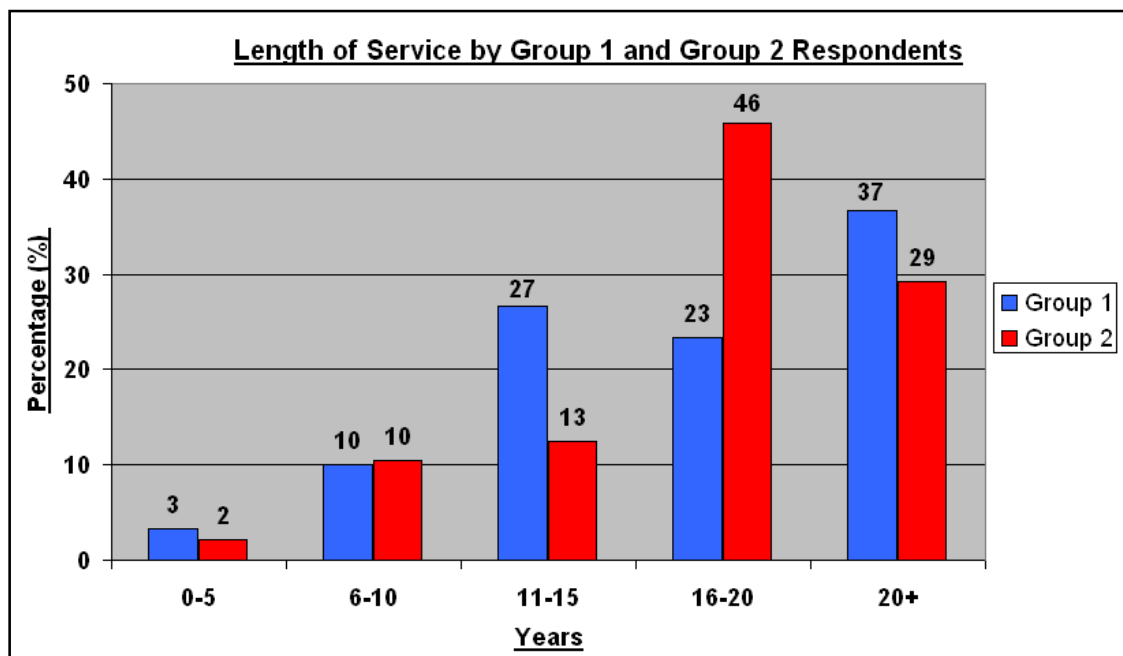


Source: Job satisfaction and change questionnaire findings (Author, 2008)

A two-sample unpaired t-test, assuming equal variances, was carried out to evaluate whether evidence of a statistically significant difference between Group 1 and Group 2 existed. The groups did not differ significantly in terms of the respondents' ages ($t(76)=1.25, p > .05$), therefore the null hypothesis (H_0) was accepted. As previously stated by Hay (1994) the requirement of normal distribution between groups, when conducting a t-test, can be ignored if the two samples are of similar size.

Chart 3 shows the length of service respondents from Group 1 and Group 2 have worked at UPM-Shotton. The results from Group 1 (N=30) shows that the largest proportion of respondents have worked at UPM-Shotton for more than 20 years (37%). The average number of years worked at UPM-Shotton by Group 1 respondents was 17.23 years (SD=5.50), ranging from 2 to 23 years. The results from Group 2 (N=48) illustrate that the largest proportion of respondents have worked at UPM-Shotton from between 16 and 20 years (46%). The average number of years worked at UPM-Shotton by Group 2 respondents was 16.87 years (SD=5.08), ranging from 1 to 23 years.

Chart 3

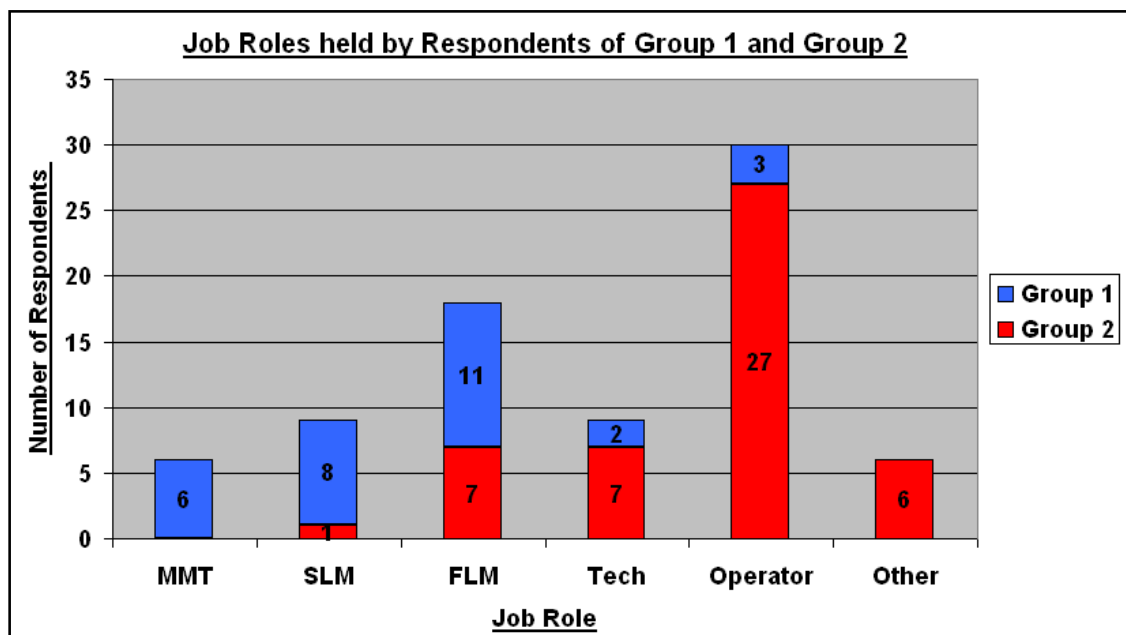


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The groups did not differ significantly in terms of the length of service respondents' had served at UPM-Shotton ($t(76)=0.29, p > .05$). As proposed by Saunders et al. (2007), when the calculated probability (p-value) is greater than .05, no statistically significant relationship exists.

Chart 4 illustrates the job roles held by respondents in Group 1 and Group 2. Respondents in Group 1 (N=30) were predominantly First Line Managers (37%) while respondents in Group 2 (N=48) were mainly Operators (56%). The total sample (N=78) consisted of 6 Mill Management Team (MMT) members (8%), 9 (12%) Second Line Managers (SLM), 18 (23%) First Line Managers (FLM), 9 (12%) Technicians, 30 (38%) Operators and 6 (8%) 'Other'.

Chart 4



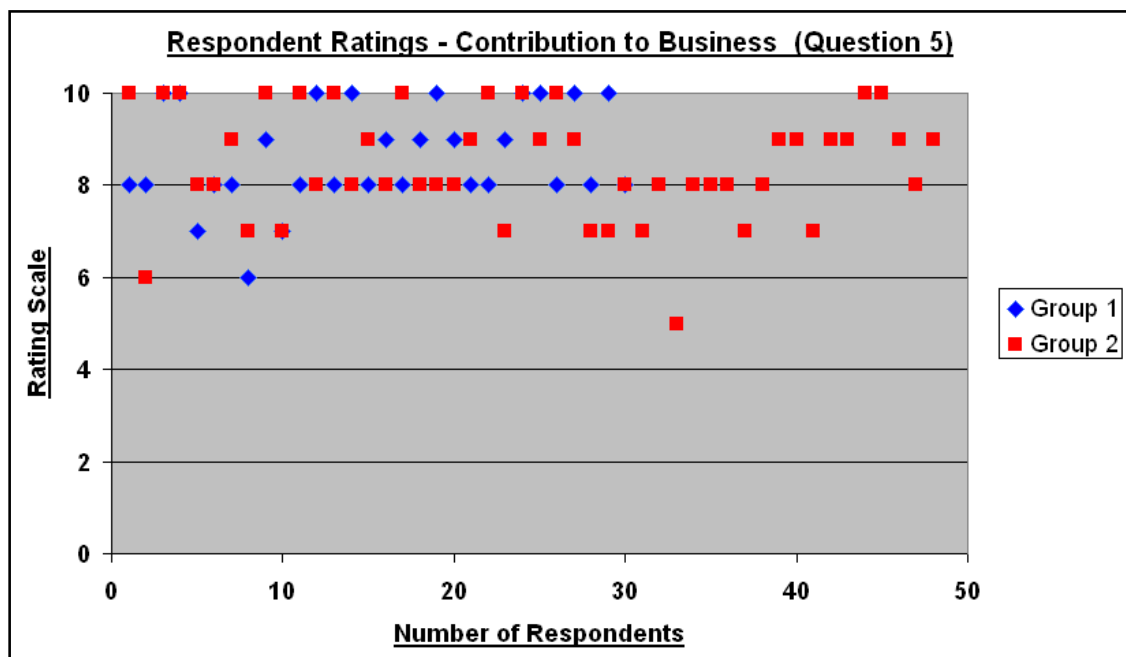
Source: Job satisfaction and change questionnaire findings (Author, 2008)

4.2.5 Job Enrichment

The following section illustrates the data collected on job enrichment, from the survey questionnaire (Questions 5 to 7).

Chart 5 shows how respondents from Group 1 and Group 2 evaluated their job in terms of the contribution they felt it made to UPM-Shotton's business. A simple ten-point Likert rating scale was used to evaluate respondents' perceptions, from 'My job does not make a valuable or worthwhile contribution' (1) to 'My job makes a valuable or worthwhile contribution' (10).

Chart 5

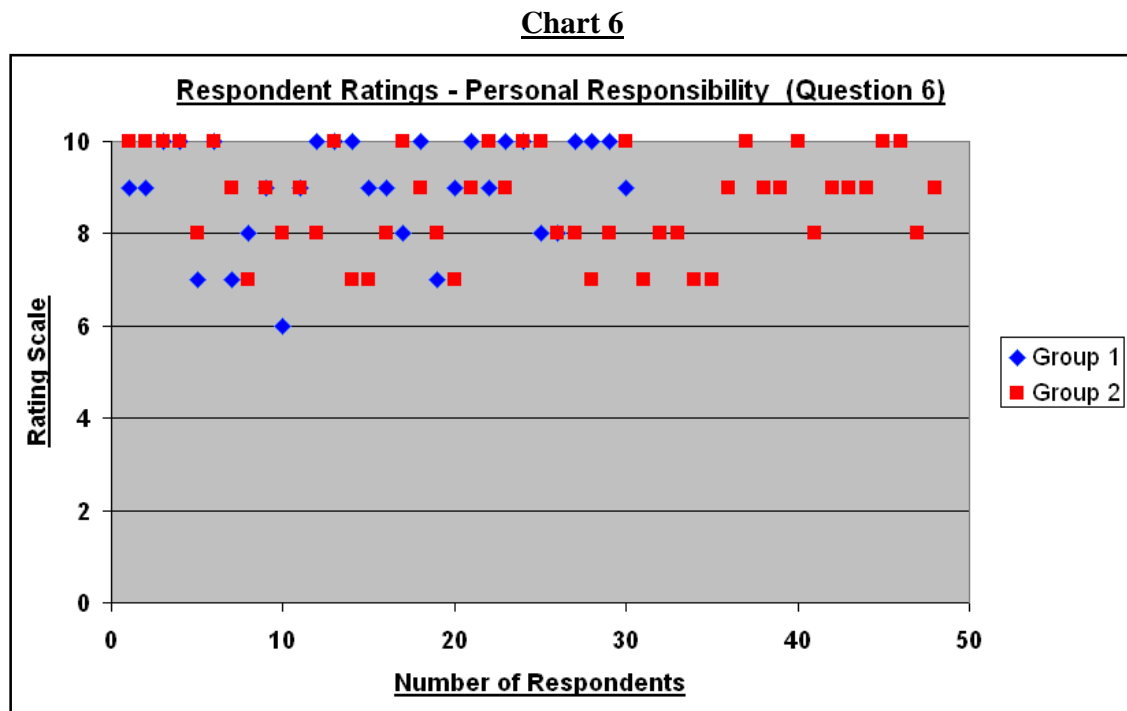


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 8.63 (SD=1.10), with scores ranging from 6 to 10. Similarly, Group 2 respondents (N=48) achieved a rating of 8.46 (SD=1.22), with scores ranging from 5 to 10.

The groups did not differ significantly in terms of how respondents rated their jobs in providing a worthwhile contribution to the business ($t(76)=0.64, p > .05$).

Chart 6 illustrates how respondents from Group 1 and Group 2 rated their level of personal responsibility for ensuring their work was successfully completed. A Likert rating scale was used to evaluate respondents' perceptions, from 'I am not responsible' (1) to 'I am fully responsible' (10).

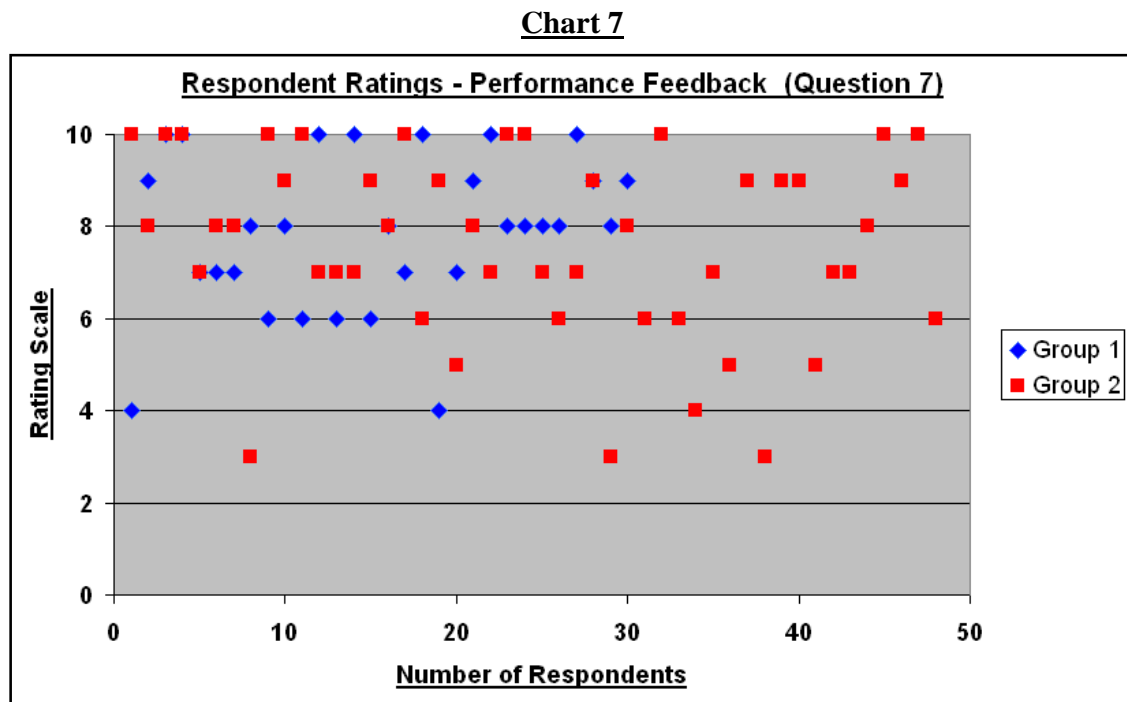


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 9.00 (SD=1.14), with scores ranging from 6 to 10. Group 2 respondents (N=48) achieved a rating of 8.73 (SD=1.09), with scores ranging from 7 to 10.

The groups did not differ significantly in terms of the level of personal responsibility respondents felt for ensuring their work was successfully completed ($t(76)=1.05, p > .05$).

Chart 7 shows how respondents from Group 1 and Group 2 rated their job in providing clear evidence and understanding on how effectively they perform. A Likert rating scale was used to evaluate respondents' perceptions, from 'No evidence or understanding is provided' (1) to 'Clear evidence and understanding is provided' (10)).



Source: Job satisfaction and change questionnaire findings (Author, 2008)

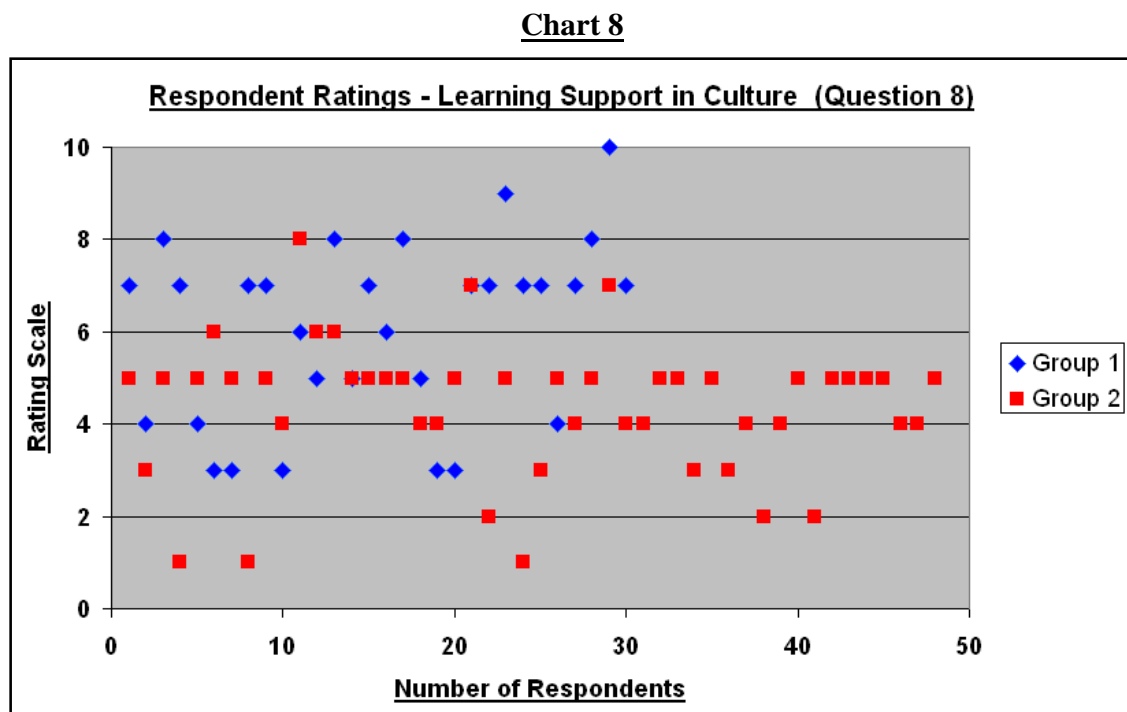
The mean rating achieved from Group 1 respondents (N=30) was 7.90 (SD=1.71), with scores ranging from 4 to 10. Group 2 respondents (N=48) achieved a rating of 7.63 (SD=2.03), with scores ranging from 3 to 10.

The groups did not differ significantly in terms of how respondents rated their jobs in providing clear evidence and understanding on how effectively they perform ($t(76)=0.62, p > .05$).

4.2.6 Learning Culture

The following section illustrates the data collected on learning culture, from the survey questionnaire. (Questions 8 to 10)

Chart 8 illustrates how respondents from Group 1 and Group 2 rated the organisational culture, in terms of supporting employee learning. A Likert rating scale was used to evaluate respondents' perceptions, from 'The culture does not support learning' (1) to 'The culture fully supports learning' (10).

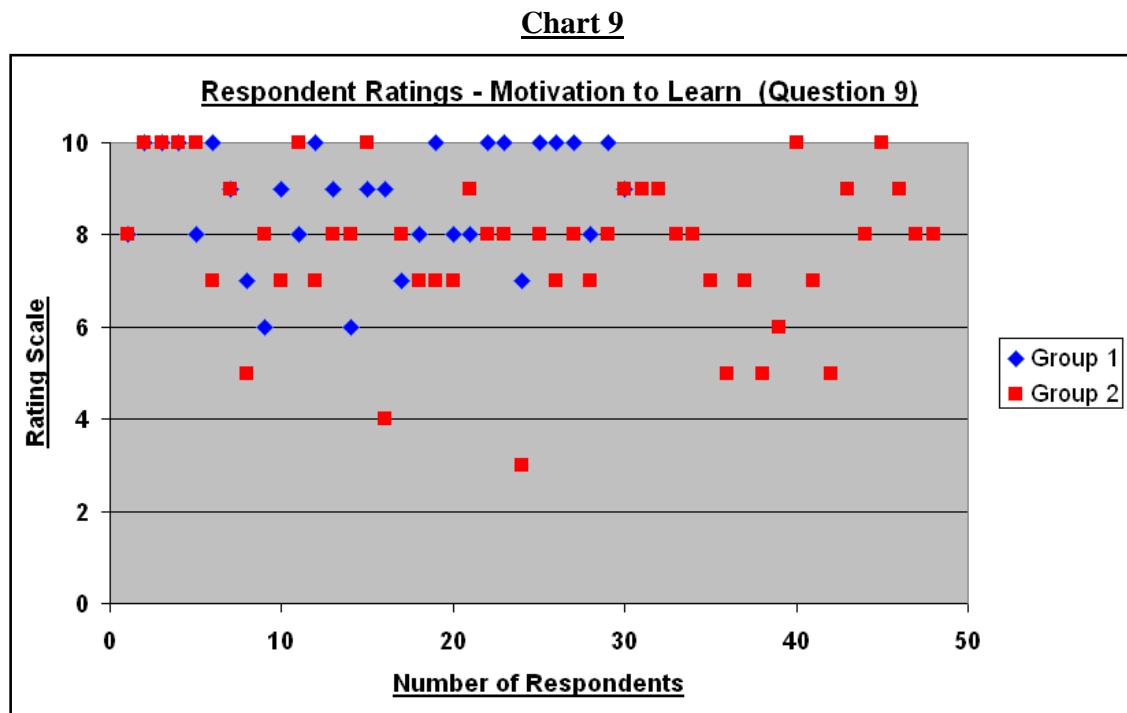


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 6.07 (SD=1.96), with scores ranging from 3 to 10. Group 2 respondents (N=48) achieved a rating of 4.39 (SD=1.48), with scores ranging from 1 to 8.

The groups differed significantly in terms of how respondents rated the organisational culture, in terms of supporting employee learning ($t(76)=4.26, p < .001$). (H_0 rejected)

Chart 9 shows how respondents from Group 1 and Group 2 rated their motivation to learn and use new skills at work. A Likert rating scale was used to evaluate respondents' perceptions, from 'I am motivated to learn and use new skills at work' (1) to 'I am very motivated to learn and use new skills at work' (10).

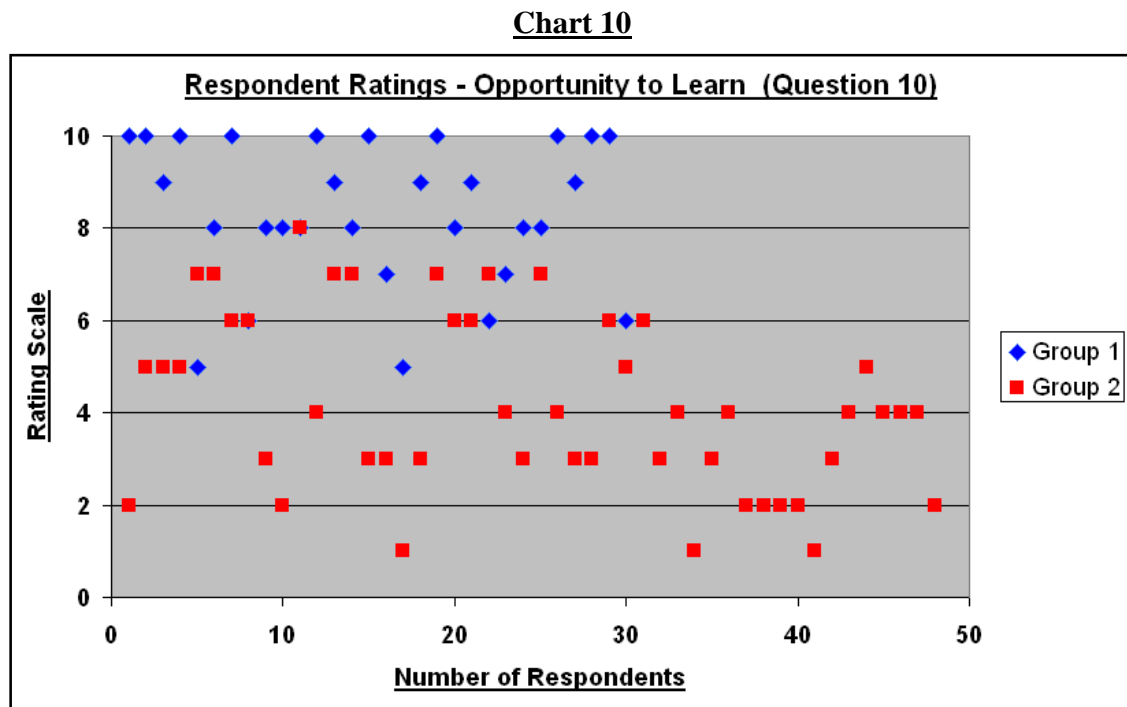


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 8.76 (SD=1.28), with scores ranging from 6 to 10. Group 2 respondents (N=48) achieved a rating of 7.77 (SD=1.65), with scores ranging from 3 to 10.

The groups differed significantly in terms how respondents rated their motivation to learn and use new skills at work ($t(76)=2.81, p < .05$). As proposed by Saunders et al. (2007), when the calculated probability (p-value) is less than .05, a statistically significant relationship exists. The relationship has only a 5% likelihood of occurring by chance alone.

Chart 10 illustrates how respondents from Group 1 and Group 2 rated the TPM change programme as an opportunity to learn and acquire new skills. A Likert rating scale was used to evaluate respondents' perceptions, from 'Poor opportunity to learn new skills' (1) to 'Excellent opportunity to learn new skills' (10).



Source: Job satisfaction and change questionnaire findings (Author, 2008)

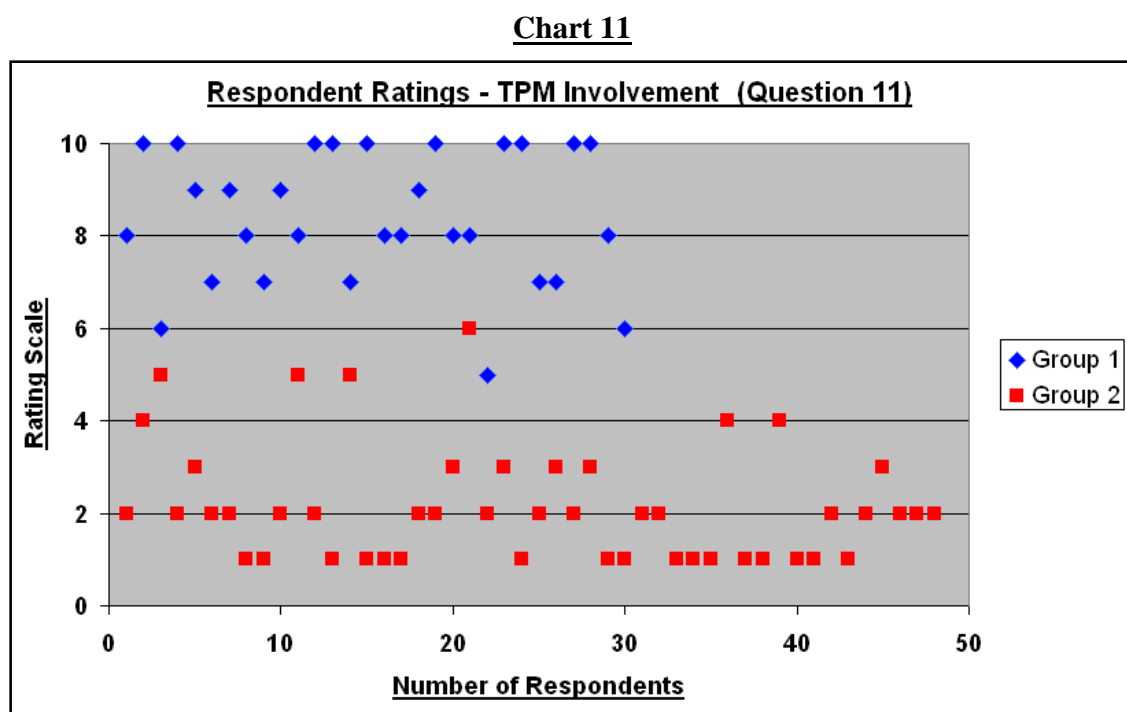
The mean rating achieved from Group 1 respondents (N=30) was 8.33 (SD=1.65), with scores ranging from 5 to 10. Group 2 respondents (N=48) achieved a rating of 4.18 (SD=1.91), with scores ranging from 1 to 8.

The groups differed significantly in terms how respondents rated the TPM change programme as an opportunity to learn and acquire new skills ($t(76)=10.02, p < .001$).

4.2.7 Change Management

The following section illustrates the data collected on change management, from the survey questionnaire (Question 11 to 13).

Chart 11 shows how respondents from Group 1 and Group 2 rated the level of involvement they experienced in the early stages of TPM implementation. A Likert rating scale was used to evaluate respondents' perceptions, from 'No amount of involvement' (1) to 'Large amount of involvement' (10).

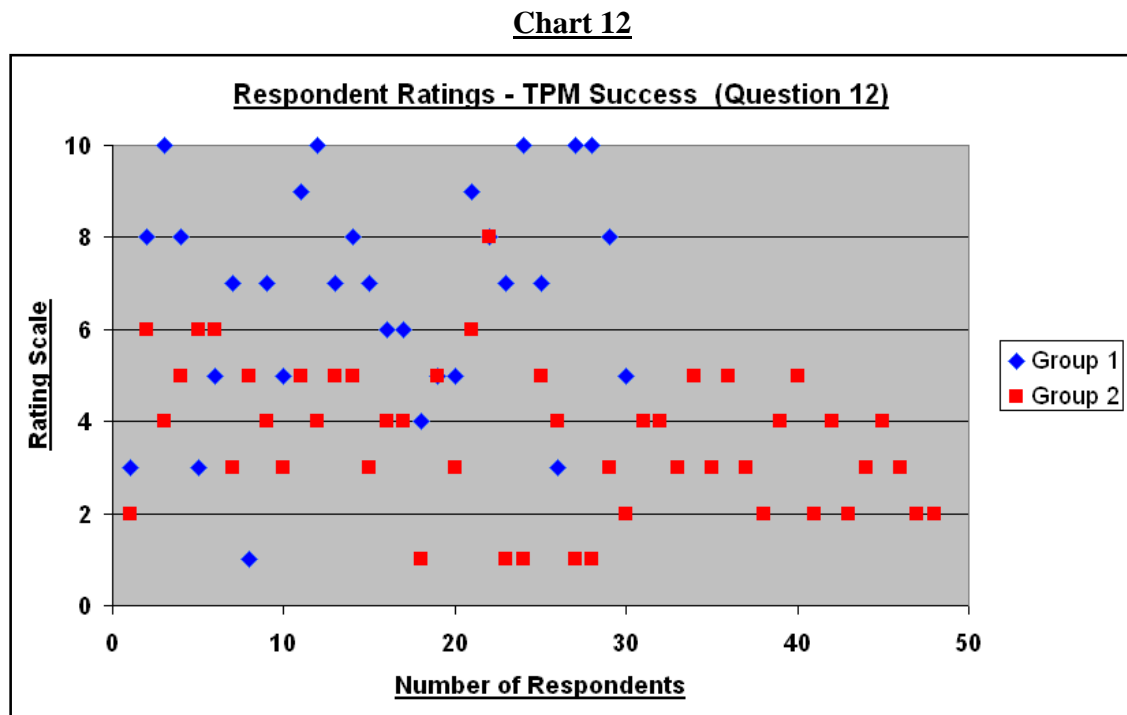


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 8.40 (SD=1.45), with scores ranging from 5 to 10. Group 2 respondents (N=48) achieved a rating of 2.16 (SD=1.28), with scores ranging from 1 to 6.

The groups differed significantly in terms of how respondents rated their level of involvement experienced in the early stages of TPM implementation ($t(76)=19.89, p < .001$).

Chart 12 shows how respondents from Group 1 and Group 2 rated their level of confidence in the TPM change programme being successful at UPM-Shotton. A Likert rating scale was used to evaluate respondents' perceptions, from 'Not at all confident' (1) to 'Very confident' (10).

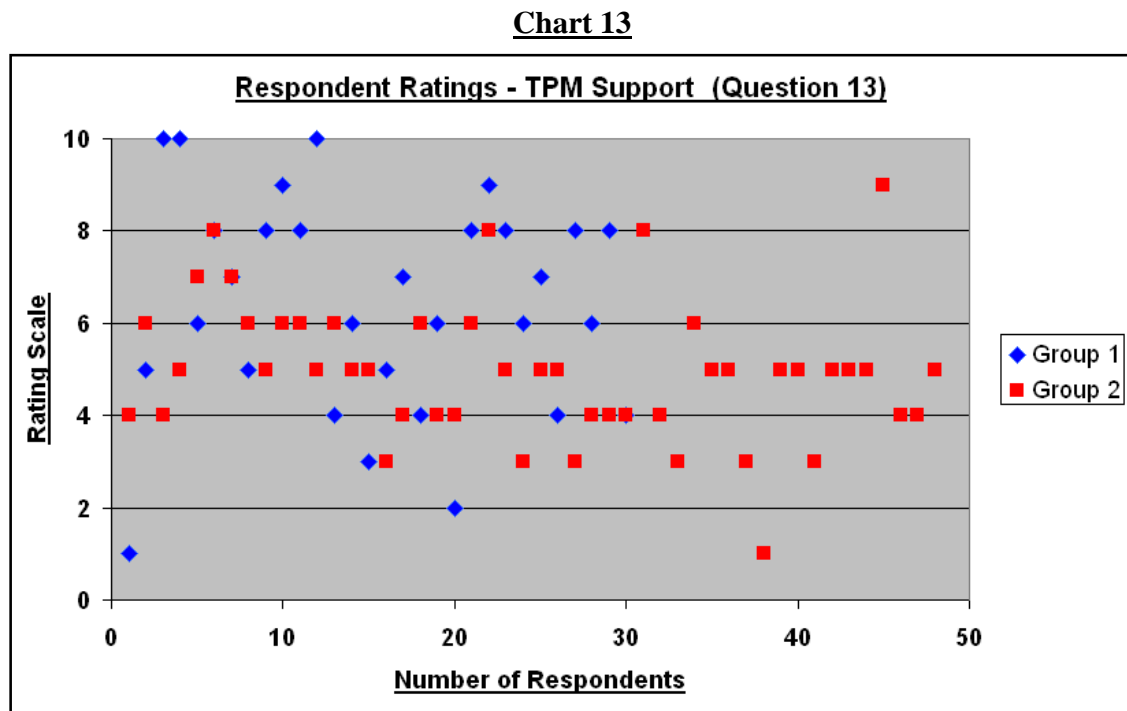


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 6.70 (SD=2.42), with scores ranging from 1 to 10. Group 2 respondents (N=48) achieved a rating of 3.65 (SD=1.59), with scores ranging from 1 to 8.

The groups differed significantly in terms of how respondents rated their confidence in the TPM change programme being successful at UPM-Shotton ($t(76)=6.73, p < .001$).

Chart 13 shows how respondents from Group 1 and Group 2 evaluated the level of support given by key organisational personnel to the TPM programme. A Likert rating scale was used to evaluate respondents' perceptions, from 'Not supported by key personnel' (1) to 'Fully supported by key personnel' (10).



Source: Job satisfaction and change questionnaire findings (Author, 2008)

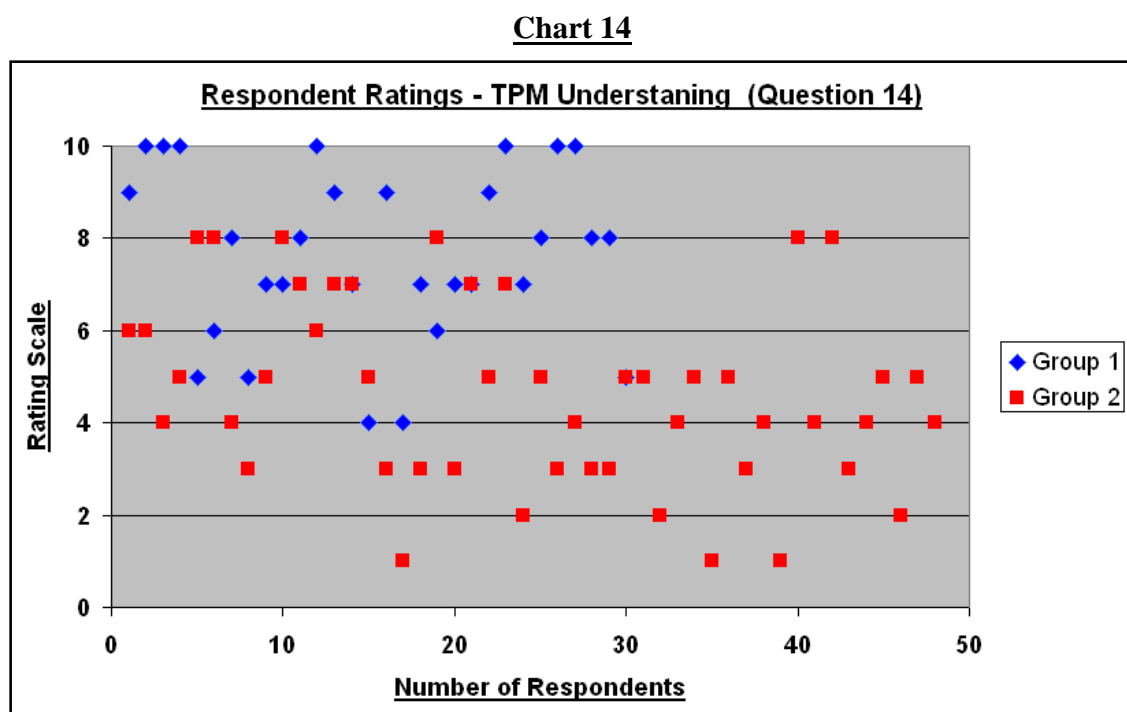
The mean rating achieved from Group 1 respondents (N=30) was 6.40 (SD=2.36), with scores ranging from 1 to 10. Group 2 respondents (N=48) achieved a rating of 4.96 (SD=1.53), with scores ranging from 1 to 9.

The groups differed significantly in terms of how respondents rated the level of support given by key organisational personnel to the TPM programme ($t(76)=3.28, p < .05$).

4.2.8 Communication

The following section illustrates the data collected on communication, from the survey questionnaire (Questions 14 to 16).

Chart 14 shows how respondents from Group 1 and Group 2 assessed their understanding of the need and benefits of TPM from internal mill communications. A Likert rating scale was used to evaluate respondents' perceptions, from 'No understanding of the needs and benefits' (1) to 'Full understanding of the needs and benefits' (10).

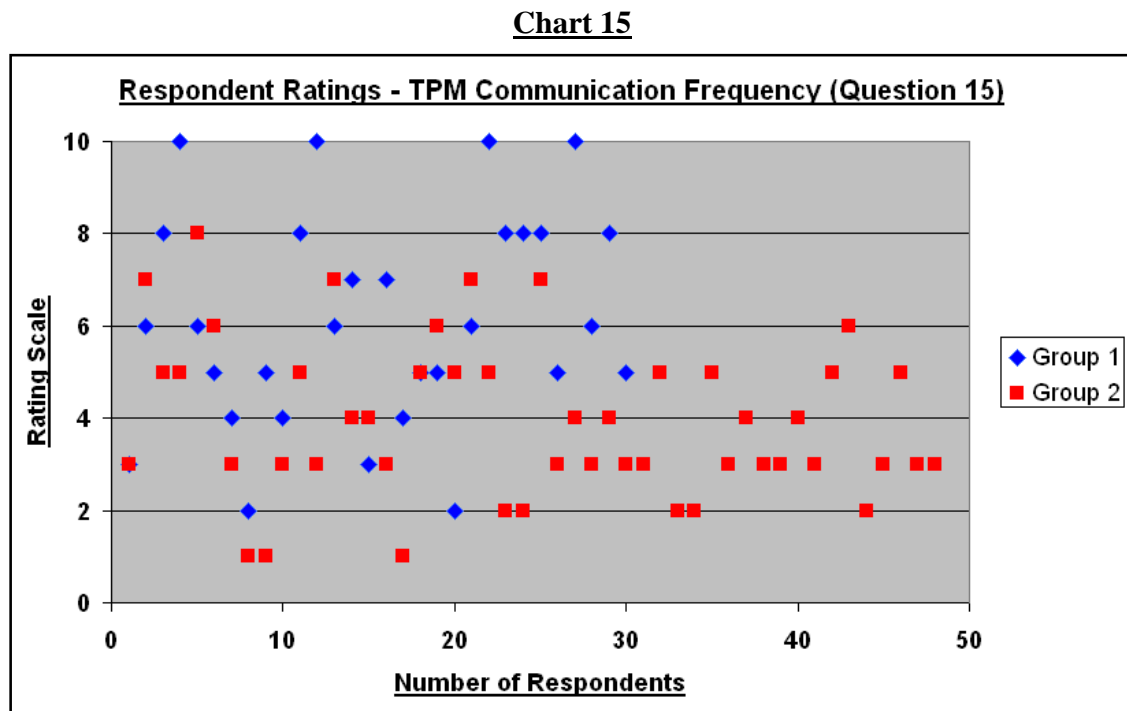


Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 7.66 (SD=1.88), with scores ranging from 4 to 10. Group 2 respondents (N=48) achieved a rating of 4.67 (SD=2.01), with scores ranging from 1 to 8.

The groups differed significantly in terms of how respondents rated their understanding of the need and benefits of TPM from internal mill communications ($t(76)=6.56, p < .05$).

Chart 15 shows how respondents from Group 1 and Group 2 rated the frequency of communication from management, concerning the TPM change programme. A Likert rating scale was used to evaluate respondents' perceptions, from 'Infrequent communication' (1) to 'Frequent communication' (10).



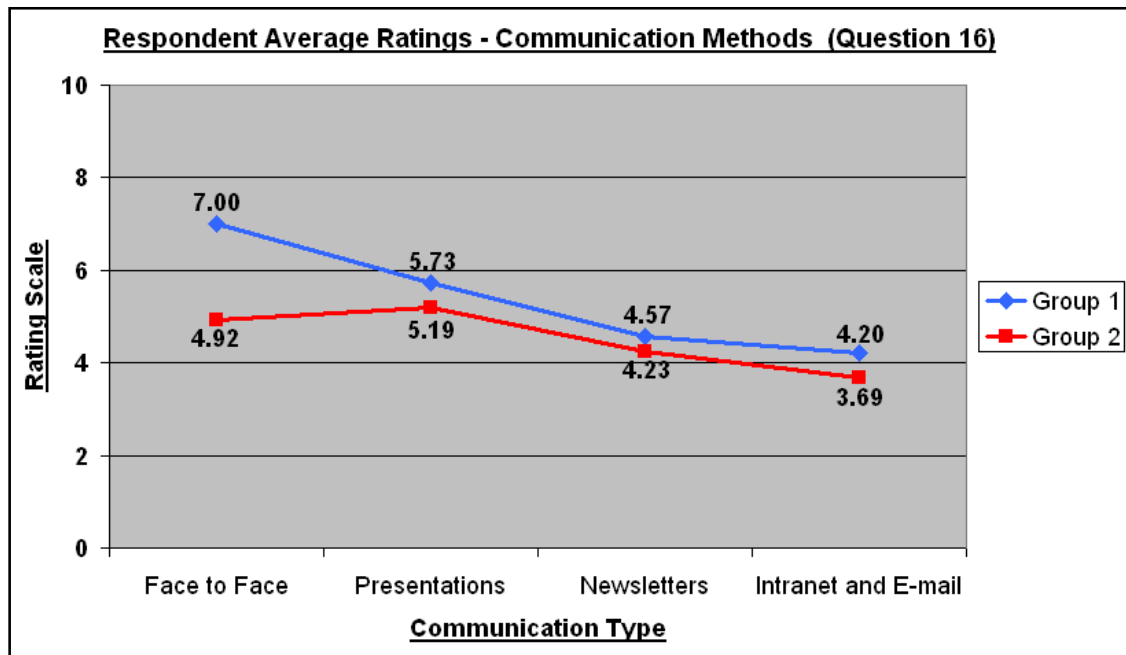
Source: Job satisfaction and change questionnaire findings (Author, 2008)

The mean rating achieved from Group 1 respondents (N=30) was 6.13 (SD=2.33), with scores ranging from 2 to 10. Group 2 respondents (N=48) achieved a rating of 3.94 (SD=1.71), with scores ranging from 1 to 8.

The groups differed significantly in terms of how respondents rated the frequency of communication from management, concerning the TPM change programme ($t(76)=4.79$, $p < .001$).

Chart 16 shows how respondents from Group 1 and Group 2 rated the effectiveness of various communication methods, used within the mill, on TPM. A Likert rating scale was used to evaluate respondents' perceptions, from 'Poor' (1) to 'Excellent' (10).

Chart 16



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The groups differed significantly in terms of how respondents rated the effectiveness of face-to-face communication, used within the mill, on TPM ($t(76)=4.79, p < .001$).

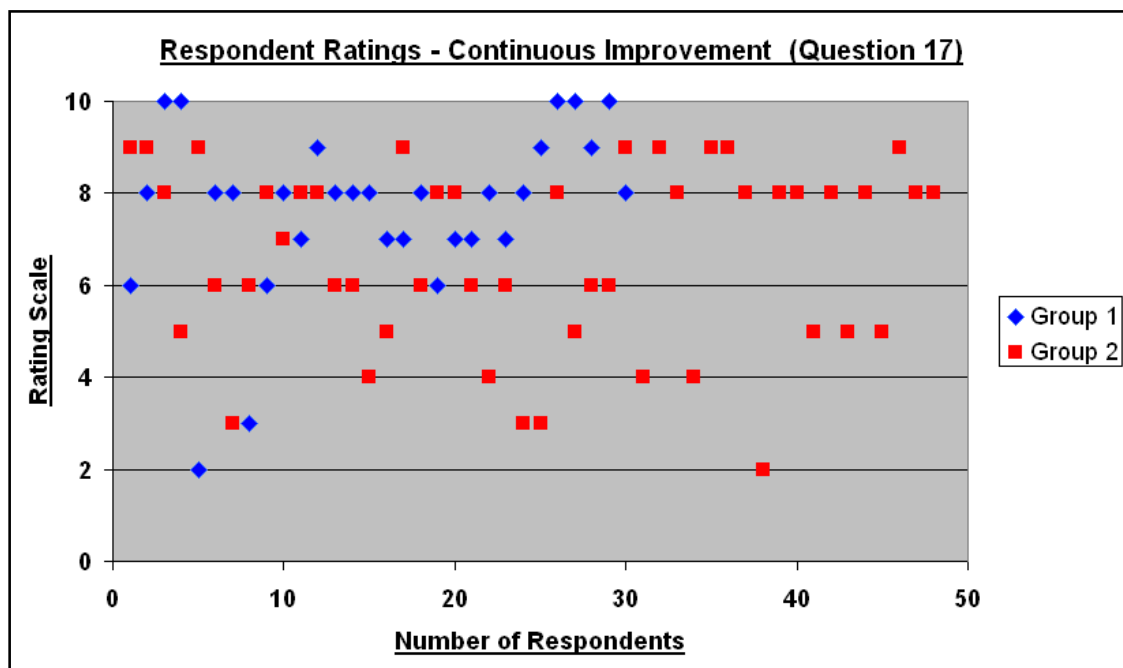
There was however no significant difference between groups in terms of the effectiveness of TPM communication using presentations ($t(76)=1.09, p > .05$), newsletters ($t(76)=0.66, p > .05$) or intranet and e-mail ($t(76)=0.92, p > .05$).

4.2.9 Continuous Improvement

The following section illustrates the data collected on continuous improvement, from the survey questionnaire (Question 17).

Chart 17 shows how respondents from Group 1 and Group 2 rated how influential continuous improvement could be in encouraging and developing organisational change at UPM-Shotton. A Likert rating scale was used to evaluate respondents' perceptions, from 'Not at all influential in developing organisational change' (1) to 'Highly influential in developing organisational change' (10).

Chart 17



Source: Job satisfaction and change questionnaire findings (Author, 2008)

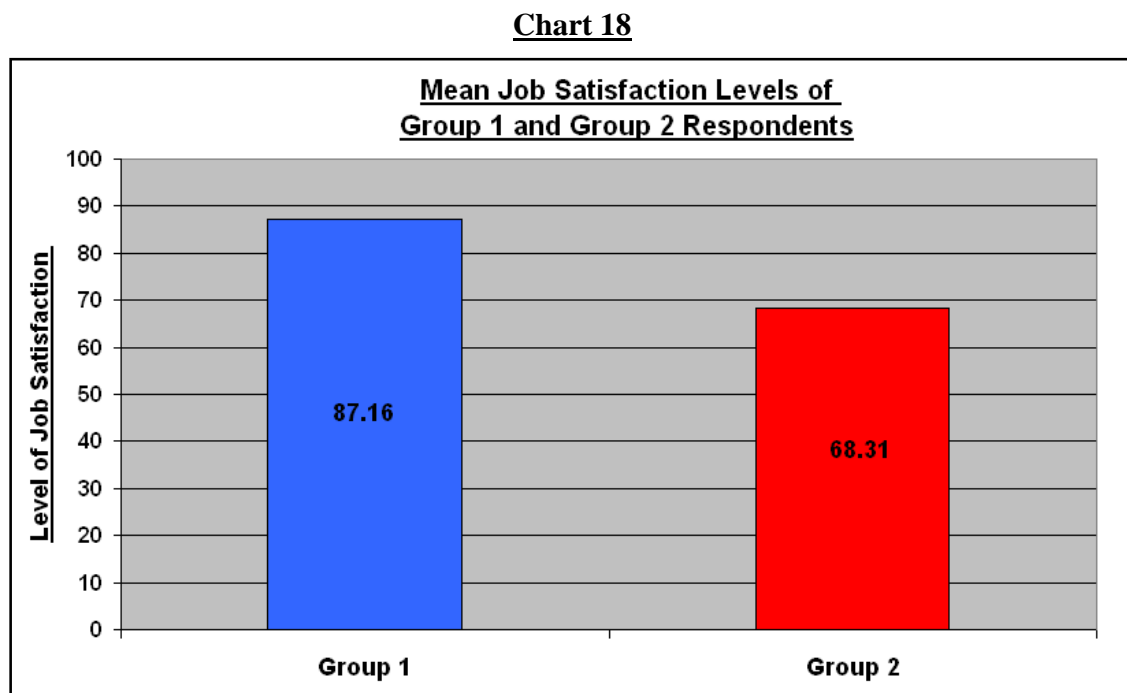
The mean rating achieved from Group 1 respondents (N=30) was 7.67 (SD=1.84), with scores ranging from 2 to 10. Group 2 respondents (N=48) achieved a rating of 6.65 (SD=1.99), with scores ranging from 2 to 9. The groups differed significantly in terms of how respondents rated how influential continuous improvement could be in encouraging and developing organisational change at UPM-Shotton ($t(76)=2.26, p < .05$).

4.4 Findings from Standardised Questionnaire

The standardised questions, taken from Cooper et al.'s (1987) Occupational Stress Indicator (OSI) as cited by Arnold et al. (1998), are shown in Appendix 5 (questions 1-22) and Appendix 6 (questions 18-39). A simple six-point Likert rating scale was used to evaluate respondents' job satisfaction levels, from 'Very much dissatisfaction' (1) to 'Very much satisfaction' (6). The job satisfaction level of each respondent was then calculated by taking the sum of all their given responses.

The mean job satisfaction level for respondents in Group 1 (N=30) was 87.16 (SD=16.19), and ranged from 65 to 119. The mean job satisfaction level for respondents in Group 2 (N=48) was 68.31 (SD=12.13), and ranged from 42 to 99.

Chart 18 shows the mean job satisfaction levels of Group 1 and Group 2 respondents.



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The groups differed significantly in terms of job satisfaction levels ($t(76)=5.74, p < .001$).

4.4.1 Correlation Analysis

Pearson's product moment correlation coefficient (PMCC) was used to measure the strength of relationship between respondents' perceived level of job satisfaction and elements within the survey questionnaire, for the whole sample (N=78). For example, respondents' job satisfaction levels were correlated against their attitudes towards personal responsibility, relating to job enrichment in question 6 of the survey questionnaire.

Questions within the survey questionnaire that related to job enrichment (Q5-7), learning culture (Q8-10), change management (Q11-13), communication (Q14-16) and continuous improvement (Q17) were all evaluated for the strength of relationship, against respondents' job satisfaction levels, using PMCC. Each calculation derived a coefficient value (r) which revealed whether the linear relationship between the variables was positive or negative, and also whether the relationship was strong or weak. As suggested by Saunders et al. (2007), coefficient values (r) range from -1 to 1, as shown in Figure 7.

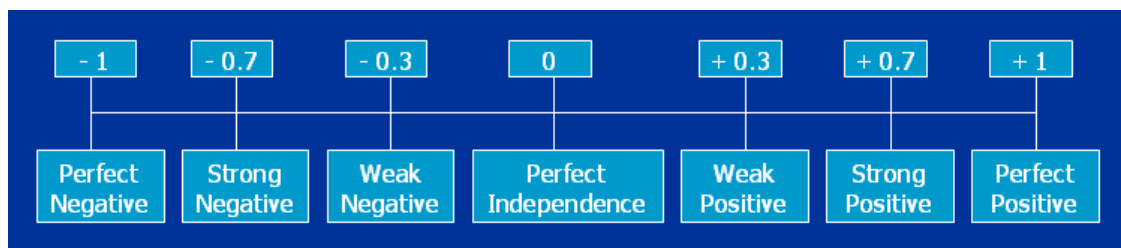


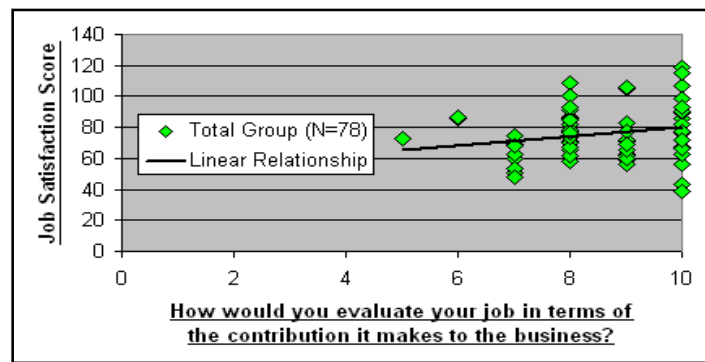
Figure 7: Saunders et al. (2007) 'Values of the correlation coefficient'

As proposed by Freedman et al. (2007), it is important to express the probability (p-value) of the calculated correlation coefficient (r), in order to evaluate the likelihood of the correlation occurring by chance alone. To improve the clarity of the findings, both correlation coefficient values (r) and probability values (p) are reported.

The following section illustrates the strength of relationship between respondent levels of job satisfaction and elements of the survey questionnaire, relating to job enrichment (Questions 5 to 7).

Chart 19 (relating to Question 5) evaluates the strength of relationship between respondents' overall job satisfaction level and the evaluation of their job, in terms of the contribution they feel it makes to UPM-Shotton's business.

Chart 19



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The resulting correlation coefficient showed a very weak, positive correlation between the two variables ($r(76) = .20$, $p > .05$), as supported by Saunders et al. (2007), and that the relationship was not statistically significant. As shown in Table 1, a positive significant correlation was identified between levels of job satisfaction and respondents' personal responsibility for work outcomes (Question 6). A non-significant positive correlation was identified between levels of job satisfaction and clarity of feedback for work performance (Question 7).

Table 1

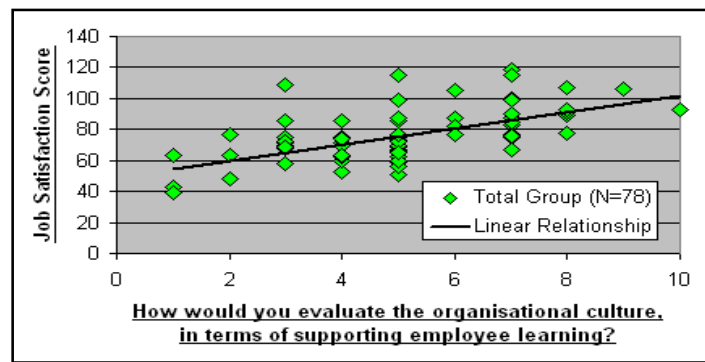
Question Number	PMCC	P-value	Relationship Strength
6	$r(76) = .38$	$p < .05$	Weak, Positive
7	$r(76) = .20$	$p > .05$	Very weak, Positive

Source: Job satisfaction and change questionnaire findings (Author 2008)

The following section illustrates the strength of relationship between respondent levels of job satisfaction and elements of the survey questionnaire, relating to learning culture (Questions 8 to 10).

Chart 20 (relating to Question 8) evaluates the strength of relationship between respondents' overall job satisfaction level and their evaluation of the organisational culture, in terms of supporting employee learning.

Chart 20



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The resulting correlation coefficient showed a medium strength, positive correlation between the two variables ($r(76) = .59$, $p < .05$.) and that the relationship was statistically significant with only a 5% chance of the association occurring by chance alone. As shown in Table 2, respondents' motivation to learn new skills at work (Question 9) and involvement in TPM as an opportunity to learn new skills (Question 10), highlights positive significant correlations between overall job satisfaction levels.

Table 2

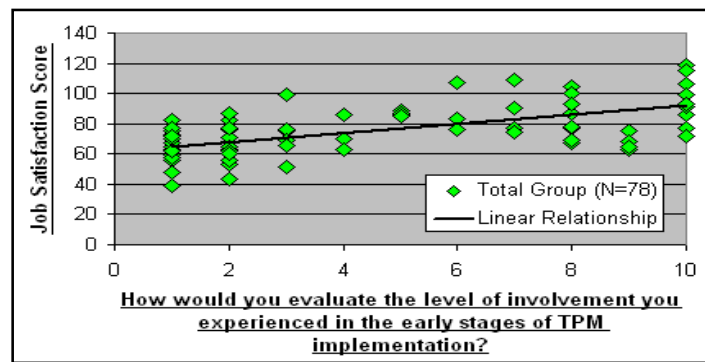
Question Number	PMCC	P-value	Relationship Strength
9	$r(76) = .44$	$p < .05$	Weak, Positive
10	$r(76) = .58$	$p < .01$	Medium, Positive

Source: Job satisfaction and change questionnaire findings (Author 2008)

The following section illustrates the strength of relationship between respondent levels of job satisfaction and elements of the survey questionnaire, relating to change management (Questions 11 to 13).

Chart 21 (relating to Question 11) evaluates the strength of relationship between respondents' overall job satisfaction level and their evaluation of the level of involvement they experienced in the early stages of TPM implementation.

Chart 21



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The resulting correlation coefficient showed a medium strength, positive correlation between the two variables ($r(76) = .61$, $p < .05$.) and that the relationship was statistically significant with only a 5% chance of the association occurring by chance alone. As shown in Table 3, confidence in TPM success (Question 12), and support given by key personnel to the TPM programme (Question 13), highlights positive significant correlations between overall job satisfaction levels.

Table 3

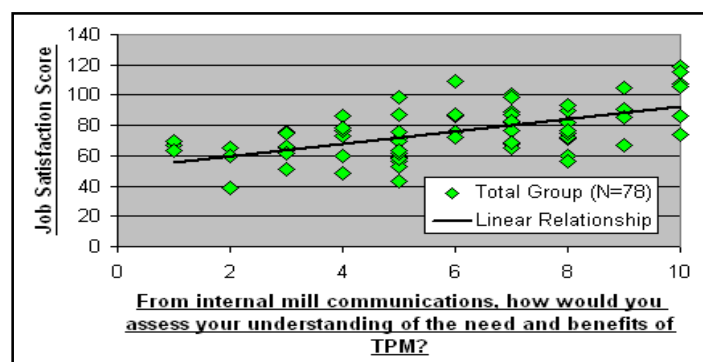
Question Number	PMCC	P-value	Relationship Strength
12	$r(76) = .66$	$p < .01$	Medium, Positive
13	$r(76) = .52$	$p < .01$	Medium, Positive

Source: Job satisfaction and change questionnaire findings (Author, 2008)

The following section illustrates the strength of relationship between respondent levels of job satisfaction and elements of the survey questionnaire, relating to communication (Questions 14 to 16).

Chart 22 (relating to Question 14) evaluates the strength of relationship between respondents' overall job satisfaction level and the evaluation of their understanding of the need and benefits of TPM, from internal mill communications.

Chart 22



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The resulting correlation coefficient showed a medium strength, positive correlation between the two variables ($r(76) = .59$, $p < .05$.) and that the relationship was statistically significant with only a 5% chance of the association occurring by chance alone. As shown in Table 4, frequency of face-to-face communication from management regarding the TPM programme (Question 15), and the effectiveness of face-face communication on TPM (Question 16a), highlights positive significant correlations between overall job satisfaction levels. Non-significant positive correlations were identified from Questions 16b, 16c and 16d.

Table 4

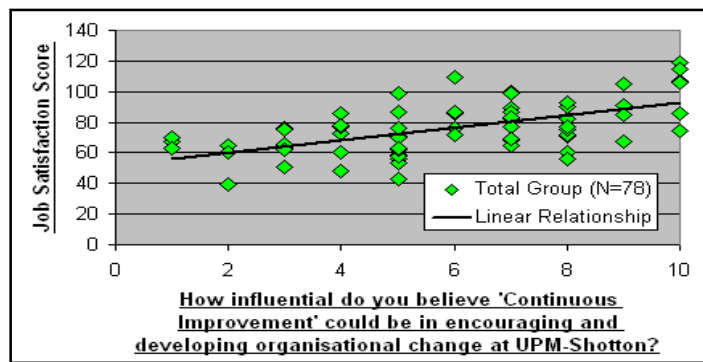
Question Number	PMCC	P-value	Relationship Strength
15	$r(76) = .63$	$p < .01$	Medium, Positive
16a	$r(76) = .36$	$p < .05$	Weak, Positive
16b	$r(76) = .29$	$p > .05$	Very weak, Positive
16c	$r(76) = .27$	$p > .05$	Very weak, Positive
16d	$r(76) = .24$	$p > .05$	Very weak, Positive

Source: Job satisfaction and change questionnaire findings (Author, 2008)

The following section illustrates the strength of relationship between respondent levels of job satisfaction and elements of the survey questionnaire, relating to continuous improvement (Questions 17).

Chart 23 evaluates the strength of relationship between respondents' overall job satisfaction level and their evaluation of how influential continuous improvement could be in encouraging and developing organisational change at UPM-Shotton.

Chart 23



Source: Job satisfaction and change questionnaire findings (Author, 2008)

The resulting correlation coefficient showed a weak, positive correlation between the two variables ($r(76) = .43, p < .05.$) and that the relationship was statistically significant with only a 5% chance of the association occurring by chance alone.

4.5 Chapter Summary

This chapter has presented the findings of the research, including the qualitative data from the semi-structured interviews and the quantitative data from the standardised and survey questionnaire. The data was analysed using appropriate statistical analysis tools including Student's t-test, to analyse between-group differences concerning dependent variables, and Pearson's product moment correlation coefficient, to identify the strength and direction of relationships between dependent variables for the whole group. Descriptive statistics, such as means, standard deviations and ranges, were also used to interpret the data.

The findings illustrated in this chapter allowed for suitable conclusions to be made. The conclusions and implications of the findings are presented in Chapter 5.

5 Conclusions and Implications

5.1 Introduction

Before introducing the final chapter of this dissertation, the function and purpose of the previous four chapters are summarised.

Chapter 1 provided a brief overview and background to the research. The research question and aims were introduced and justified, and the study's methodology was outlined.

Chapter 2 contained a review of current academic literature and theory on change management and job satisfaction. The chapter enabled the development of a conceptual model that was used to appropriately answer the research question.

Chapter 3 described the methodological procedures employed to answer the research question. A clear rationale was offered for the chosen research philosophy, approach, strategy, purpose and time-horizon. Rejected methods were also discussed. Selected data collection methods were described and issues relating to validity, reliability and triangulation were considered. In addition, ethical issues were also considered.

Chapter 4 presented the findings of the research, including the qualitative data from the semi-structured interviews and the quantitative data from the standardised and survey questionnaire.

The final chapter of this dissertation, Chapter 5, provides conclusions and the implications of the research. A critical evaluation of the adopted research methodology is offered and answers to the research question and aims are provided. Limitations of the study and opportunities for further research are also presented.

5.2 Critical Evaluation of Adopted Methodology

The following section reviews and critically evaluates the chosen research methodology used during the study. Weaknesses of the adopted methodology are identified and improvement ideas are presented.

The study's methodology was initially developed by considering each layer of the Saunders et al. (2007) research 'onion' model. The model provided a clear framework for selecting appropriate research strategies and methods capable of answering the research question and aims.

A combined positivist and interpretivist philosophy was deemed appropriate for this study. The interpretivist philosophy emphasised the necessity for the researcher to appreciate variations between humans and the interpretation of their social role, while the positivist philosophy allowed for the incorporation of statistical analysis and quantitative methods to improve the generalisability of the findings.

A combined research approach, using both inductive and deductive elements, was considered appropriate for the study. The inductive approach, as previously stated, promoted the examination of themes and categories that emerged from the research data. This allowed for emergent themes within the findings of Chapter 4 to be developed into relevant research theories and recommendations. Deductive elements were also incorporated within the research approach to formulate the conceptual model and to enhance the generalisability of the findings. The combined approach allowed the researcher to explore why between-group differences occurred, as well as identifying what those differences were.

Survey methods were used within the research strategy to gather the required data that would enable the research question to be answered. The standardised and survey questionnaire allowed large amounts of relevant data to be collected, efficiently and effectively, from the required population. In general, the survey methods employed for the research were successful, although several improvement ideas were put forward by respondents relating to questionnaire design. Despite piloting the questionnaire, some respondents were

apprehensive to record their age in Question 2 of the survey questionnaire. It was suggested that the question 'What is your age?' was replaced by 'What is your age range?', so respondents would feel more comfortable when completing the question. Several respondents also believed that Question 38, within the standardised section of the questionnaire, was 'ambiguous' and 'non-specific' and may have been improved if separated into two discrete questions.

Other limitations of the research methodology included, using a cross-sectional research design, the development and applicability of the OSI (Cooper et al., 1987) and a lack of follow-up.

To optimally answer the research question, a longitudinal design may have enhanced the study's methodological rigour. This could have been achieved by conducting repeated within-group assessments throughout the change programme. However, a cross-sectional research design was selected over a longitudinal design due to the time constraints of the study.

Limitations of the OSI include that the original development was based on a very small sample (N=156) (Williams & Cooper, 1998). In addition, there was an assumption made that the face validity of the OSI was equivalent for both 'blue collar' and 'white collar' workers.

Time constraints limited opportunity for longer term follow-up within the study. It is possible that the between group differences identified, may have changed over time. A longer term follow-up e.g. after six months, could offer clarification on the stability of the between-group differences identified in relation to job satisfaction levels.

5.3 Conclusions about the Research Question and Aims

The following research aims were initially identified in order to appropriately answer the research question.

Aim 1: Examine existing change management theory.

Aim 2: Identify current thinking on job satisfaction.

Aim 3: Explore UPM-Shotton's approach to change management and identify which factors, based on the conceptual model, affect job satisfaction.

Aim 4: Compare levels of job satisfaction amongst UPM-Shotton employees who are actively involved in a Total Productive Maintenance (TPM) change programme, compared with employees who are not yet involved in the change programme.

Aim 5: Make recommendations on how to increase levels of job satisfaction, amongst UPM-Shotton employees, through the development of the change programme.

Research aims 1 and 2, which examined existing change management theory and identified current thinking on job satisfaction, were satisfied within Chapter 2's literature review. The reviewed academic literature allowed for a theoretical foundation to be established on which to base the research upon. A conceptual model was developed, which drew together the key elements of change management and job satisfaction, in order to answer the research question.

Research aim 3, which explored UPM-Shotton's approach to change management and identified factors based on the conceptual model that could affect job satisfaction, was answered within the findings of Chapter 4. Semi-structured interview questions, initially developed in Chapter 3, were used to probe and explore interviewees' ideas and perceptions of the key themes of the conceptual model.

Change Management

Respondents of the semi-structured interviews believed that UPM-Shotton had used both planned and emergent change management processes over recent years. As suggested by many of the interviewees, adopted management processes should always be relevant to the specific nature of the change. Despite many examples of planned change within UPM-Shotton, the general consensus amongst respondents was that emergent change had become more dominant and widespread within the organisation.

Interview respondents clearly believed that members of the Mill Management Team (MMT) were responsible for recognising relevant drivers for change within the external business environment and for the overall outcome of the selected change initiatives. By understanding the forces on the business, organisational management can develop a clear rationale for the need to change and implement the most appropriate course of action. Similar to many other businesses, UPM-Shotton develops strategic plans in order to provide answers to why the change is necessary, and how the organisation will attempt to achieve the aims of the proposed change.

In general, respondents believed that change ideas could be generated from anywhere within the organisation. It was recognised however that for these ideas to become successful, they would generally require the backing and support of MMT members. For the successful implementation of change to occur, it was also believed that resistance to change should be actively managed. Respondents understood that resistance was an expected part of any change initiative although some did not recognise an 'active strategy' for dealing with resistance at UPM-Shotton. Several examples of how management had positively overcome resistance were provided by respondents and the emerging themes suggested that clear communication, involvement, consultation and active listening were all key elements used to reduce or eliminate resistance to change.

Within the literature review in Chapter 2, Mohram et al. (1998) highlighted that several factors could influence, maintain or enhance the level of an employee's job satisfaction during a period of change. These factors included job enrichment, learning culture and communication.

Job Enrichment

Job enrichment, regarded as a crucial element in promoting job satisfaction, concerns job design and the core characteristics of an employee's job role. Respondents of the semi-structured interviews believed that the TPM change programme provided them with the opportunity to use different skills and work with a variety of different people, however only two respondents from eight considered that the TPM change programme had actually impacted upon the core characteristics of their job role.

Aspects of Hackman and Oldman's (1980) critical psychological states, including meaningfulness, responsibility and knowledge of results, were also reviewed with respondents. For example, when asked if their personal responsibility for the successful completion of work related tasks had been impacted during the change programme, several respondents believed that their personal responsibility had indeed been heightened when working in TPM groups. Despite these perceptions, no significant difference between Group 1 and Group 2 was found ($t(76)=1.05$ $p>.05$). In fact, no significant differences were found between groups for any aspect of job enrichment. The survey data demonstrated that respondents' ratings of their perceived contribution to the business, the tangible feedback received on performance and their personal responsibility for completing work related tasks, were relatively high across both groups. This suggests that job characteristics that contribute to job enrichment are already present, for those involved, and for those not yet involved, in the change programme.

In terms of identifying how aspects of job enrichment e.g. meaningfulness, affect levels of job satisfaction, the results are equivocal. The correlation analyses indicate weak or very weak positive relationships between job enrichment and job satisfaction variables. However, all the correlations were non-significant, meaning that conclusions cannot be made based on

the positive relationship between variables. The non-significant differences found between groups, concerning aspects of job enrichment, suggest that other factors of the conceptual model, such as communication and learning culture, may have a stronger influence on levels of job satisfaction.

Learning Culture

Gardiner and Whiting (1997) suggest that through organisational learning, the job performance and job satisfaction of employees can be enhanced. Respondents of the semi-structured interviews believed that learning was seen as a positive element within UPM-Shotton's current culture, however, it was highlighted that the processes and procedures that supported learning could be improved. More formalised processes such as Standard Operating Procedures (SOP's) and One Point Lessons (OPL's), combined with skills matrices and training records, were suggested as ways to improve the transfer of knowledge within the organisation.

The evaluation of UPM-Shotton's learning culture was compared between Group 1 and Group 2 respondents. Aspects of the culture, including whether the culture supported employee learning, whether respondents were intrinsically motivated to learn new skills at work, and whether the TPM change programme provided an opportunity to learn and acquire new skills, were researched. Significant, between-group differences were identified. For each aspect of learning culture rated within the survey questionnaire, Group 1 respondents provided significantly higher scores. For example, when asked to rate the organisational culture in terms of supporting employee learning, the mean rating achieved from Group 1 respondents (N=30) was 6.07 (SD=1.96), whereas Group 2 respondents (N=48) achieved a mean rating of 4.39 (SD=1.48). The groups differed significantly ($t(76)=4.26, p < .001$). The results suggest that respondents from Group 1, who have been actively involved with the TPM change programme, view aspects of UPM-Shotton's learning culture more positively than Group 2 respondents. This may reflect the increased opportunities for learning within the TPM programme and that being involved in the TPM programme may enhance intrinsic motivation to learn new skills.

Correlation analyses indicated significant positive relationships between job satisfaction and learning culture, including whether participants perceived the culture to support employee learning, whether respondents were intrinsically motivated to learn new skills at work, and whether the TPM change programme provided an opportunity to learn and acquire new skills. These findings suggest that greater opportunities for learning within UPM-Shotton are positively associated with levels of job satisfaction. These findings support the theoretical basis of the conceptual model (e.g., Gardiner & Whiting, 1997; Mohram et al., 1998) that supporting employee learning during periods of change will maintain, or enhance, levels of employee job satisfaction. In addition, the findings support Robbin's (2003) theory, and the conceptual model, that individuals' intrinsic motivation to use learning opportunities, is a key contributing factor in enhancing job satisfaction. The results suggest that the TPM programme offers employees opportunities to learn and acquire new skills which may have maintained, or enhanced, levels of job satisfaction for Group 1 throughout the change process.

Communication

Cavanagh (2001) suggests that clear and regular communication across an organisation is essential for maintaining job satisfaction during periods of change. The literature also highlighted that early involvement and consultation with employees regarding the form and need for change, reduces levels of uncertainty and fear, while enhancing levels of change readiness. Respondents of the semi-structured interviews believed that UPM-Shotton had used a wide variety of communication channels to promote the TPM change programme across the organisation. Similar to the findings of the Industrial Society (1994), all respondents considered face-to-face communication to be the most effective form of communication used within the organisation, as it was perceived to create interaction and get people involved. In terms of TPM involvement, employees selected for the initial 'pilot phase' of the programme experienced greater amounts of relevant TPM communication than employees not selected, or involved, in the pilot phase. Respondents therefore felt that while some people had been heavily involved with the TPM programme, others had only received limited amounts of communication and involvement.

Aspects of communication, relating to the TPM change programme, were compared between Group 1 and Group 2 respondents. Aspects such as how respondents rated their understanding of the need and benefits of TPM from internal mill communications; the frequency of TPM communication from management; and the effectiveness of various communication methods relating to the TPM change programme, were evaluated. Significant, between-group differences were revealed for each aspect of communication rated within the survey questionnaire, with Group 1 respondents providing consistently higher scores. For example, when asked to rate their understanding of the need and benefit of TPM in relation to internal mill communications, Group 1 respondents (N=30) achieved a mean rating of 7.66 (SD=1.88), whereas Group 2 respondents (N=48) reached a mean rating of 4.67 (SD=2.01). This finding suggests that Group 1 participants have a clearer understanding of the benefits of TPM through active involvement. Linking back to the conceptual model, this enhanced understanding demonstrated by Group 1, may have helped to overcome resistance to change and facilitate successful implementation of the change programme.

Both groups rated face-to-face communication from management as being more valued than written communication methods e.g. newsletters and e-mail. This finding is similar to that of Elving (2006), who identified that face-to-face communication methods were more effective at generating feelings of commitment towards change, than written communications. However, Group 2 respondents gave 'Presentations from management' a mean rating of 5.19 (SD=2.18), which was rated higher than 'face-to-face communication', given a mean rating of 4.92 (SD=2.58). This suggests that Group 2 respondents valued a more structured approach to communication from management, in relation to the TPM change programme.

Correlation analyses indicated significant positive relationships between job satisfaction and factors associated with communication, including respondents understanding of the need and benefits of TPM from internal mill communications, the frequency of TPM communication from management and the effectiveness of face-to-face communication about the TPM change programme.

These findings support Morham et al.'s (1998) hypothesis that clear communication is an essential element for maintaining or enhancing levels of employee job satisfaction during a period of change. The findings suggest that the critical components of effective communication methods within UPM-Shotton concern clarity, frequency and personal involvement from management. Linking back to the conceptual model, reduced uncertainty and ambiguity about change may mediate the positive associations between levels of job satisfaction and communication methods.

Research aim 4 compared levels of job satisfaction amongst UPM-Shotton employees who were actively involved in the TPM change programme, with employees who were not involved in the change programme. The groups differed significantly in terms of job satisfaction levels ($t(76)=5.74, p < .001$), with the mean job satisfaction level for respondents in Group 1 ($N=30$) being 87.16 ($SD=16.19$) compared with 68.31 ($SD=12.13$) for Group 2 respondents ($N=48$).

The conceptual model offers a potential explanation for the differences in job satisfaction levels between groups. Group 1 may have experienced enhanced opportunities for learning and more effective communication methods, compared with Group 2 respondents, given the higher levels of active involvement in the TPM change programme. Such factors may have buffered the potentially negative impact of change, as suggested by Senior (2002), for Group 1 participants. However, differences in job satisfaction levels may have existed between groups prior to the implementation of the TPM change programme. This is a limitation of the cross-sectional design of the study.

Research aim 5 was to make appropriate recommendations on how to increase levels of job satisfaction, amongst UPM-Shotton employees, through the development of the change programme. This is shown in Section 5.4.

5.4 Recommendations

Several recommendations relating to the development of the change programme, may help to increase levels of job satisfaction amongst UPM-Shotton employees. Table 5 sets out an implementation plan concerning the proposed recommendations which have been devised from the conceptual model and the findings of the semi-structured interviews and survey questionnaires.

Table 5

Recommendation	Purpose	Implementation Plan
Increase the frequency and regularity of formal communications (both face-to-face and formal presentations) regarding the change programme to all employees.	To provide feedback of programme progress and to enhance commitment to the change.	Schedule and implement monthly presentations (as suggested through the semi-structured interviews).
Active members of the TPM change programme should be utilised to provide training to those not yet actively involved with the change programme.	To share knowledge of the TPM process and to demonstrate practical examples of TPM success.	Select suitable trainers. Create training schedule and implement.
Improve processes and procedures that support learning, using Standardised Operating Procedures (SOP's), One Point Lessons (OPL's) and skill matrices etc. Ensure training is area lead rather than HR lead.	To improve the transfer of knowledge within the organisation.	Write and update relevant training documentation. Create training schedule and implement.
Create opportunities for increased planning and control over individual's work.	To enhance personal responsibility for ensuring work tasks are successfully completed.	Integrate aspects of work control and planning within annual Personal Performance Review (PPR) processes.
Measure job satisfaction levels and trends within the organisation on a regular basis.	To identify whether actions taken to maintain, or enhance, job satisfaction levels have provided tangible success.	Conduct job satisfaction surveys across the organisation (bi-annually).

5.5 Limitations of the Study

There were several limitations highlighted within the study including the generalisability of the findings, potential demand characteristics and lack of control over confounding variables. These will now be discussed in more detail.

In terms of the generalisability of the findings, the raw data collected within the study, was specific to UPM-Shotton. It is questionable whether the results would apply to other paper mills within the UPM group e.g. in different countries. In addition, the results may not be replicable in other industries that use TPM change programmes e.g. automotive industries. The sample in the current study was predominately male suggesting that the results may not be applicable to industries with a higher proportion of female employees.

The respondents of both the semi-structured and survey questionnaires may have been influenced by demand characteristics. For example, as the researcher was an employee of UPM-Shotton, respondents may have felt pressure to take part or respond in a particular way e.g. with a positive bias. Use of a researcher, independent to UPM-Shotton, may have minimised potential demand characteristics.

The study may have lacked control over various confounding variables. For example, the amount and frequency of involvement in the TPM change programme may have differed amongst participants e.g. variable experiences within groups. Although no other differences were apparent between-groups, except for the level of participation with the TPM change programme, it cannot be assumed that the change programme was the sole explanation for between group differences in levels of job satisfaction. There may also be other factors not considered within the conceptual model that may influence the level of employee job satisfaction e.g. different styles of leadership received between groups.

5.6 Opportunities for Further Research

To facilitate the selection and design of future research projects, examples of opportunities for further research have been detailed below.

- An opportunity exists to compare levels of employee job satisfaction across other specific groups within UPM-Shotton. For example, do engineering personnel have a greater job satisfaction level than administration staff? An exploratory study may determine the differences between groups, in terms of employee job satisfaction level, and highlight ways to improve job satisfaction levels if found to be low.
- A cross-sectional research design was selected for this study. An opportunity exists to complete a longitudinal study to determine whether job satisfaction levels change overtime.
- Further research could be undertaken to investigate how other manufacturing sites e.g. automotive industry, have implemented TPM change programmes, and how levels of employee job satisfaction compare to those of UPM-Shotton employees.

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Appendix 1 – Project Information Sheet on Proposed Research



Information Sheet on Proposed MBA Research at UPM-Shotton

March / April 2008

Researcher: Andrew O’Grady

As part of a final year MBA (Master of Business Administration) dissertation, I intend to conduct some original research at UPM-Shotton.

The purpose of the proposed research is to measure and compare the level of job satisfaction experienced by two differing groups of UPM-Shotton employees. The study will examine whether job satisfaction levels are significantly different between each group. The research will also focus on how the TPM change programme has been managed, and will provide recommendations on how the level of employee job satisfaction can be maintained or enhance through improvements to the change programme.

Please note that all information collected for the purpose of the dissertation is anonymous and that all responses received during interviews will be treated in the strictest confidence.

Thank you for taking time to read this proposal and for completing the questionnaire.

Andrew O’Grady

Appendix 2 – Semi-Structured Interview Consent Form



MBA Consent Form
Semi-Structured Interviews

Research Title: Job Satisfaction and Change

Research Purpose: To investigate levels of employee job satisfaction in relation to the TPM change programme.

Researcher: Andrew O'Grady

**Please tick
box if you
agree.**

I confirm that I have read and understood the 'Dissertation Information Sheet', dated 12th February 2008, and have been given the opportunity to ask questions relating to the proposed study.

☐

I understand that my participation is voluntary and that I am free to withdraw at any time.

☐

I agree to participate in a semi-structured interview with the researcher.

☐

Participant Name: _____ Researcher Name: _____

Date: _____ Date: _____

Signature: _____ Signature: _____

Appendix 3 - Semi-Structured Interview Questions

Change Theme

1. How are major change initiatives managed within UPM-Shotton?
2. Could you give an example of a change initiative that was planned within Shotton?
3. Could you give an example of an emergent change within Shotton?
4. How is change driven within UPM-Shotton?
5. Who originates change ideas? Who implements the change?
6. How does resistance to change manifest itself during a change initiative? Is resistance to change seen as a positive? How is resistance to change managed?

Job Enrichment Theme

7. How has the current change initiative i.e. TPM impacted on (or changed) your current job role?
8. Have you noticed any impact on the variety of skills you have used during the change initiative?
9. Have you noticed any change in the significance of your work tasks, in terms of impacting on the work or lives other employees?
10. How has your level of autonomy regarding the planning or execution of work tasks been impacted during the change programme? (e.g. Do you have more freedom to decide when or how task are carried out)
11. How has your personal responsibility for the completion of work related tasks been impacted during the change programme? (How about group responsibility?)
12. In what ways does the change programme provide you with evidence of how effectively you have performed a task?

Learning Culture Theme

13. How would you describe Shotton's current culture?
14. How is learning encouraged or supported within Shotton's culture?
15. How do you think knowledge is transferred throughout the organisation?
16. How is the impact of learning evaluated / measured at an individual or organisational level?

Communication Theme

17. How has the TPM change programme been communicated to you?
18. What have you found has been the most effective form of communication about the change programme and why? Which method did you value the most?
19. What involvement do you think employees' have experienced in the early stages of TPM implementation?
20. How would you describe the current process for communicating TPM?

Appendix 4 – Survey Questionnaire Raw Data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Group 1																				
2																					
3	Question 1	M	M	M	M	M	M	M	M	M	M	M	M	F	M	M	M	M	M	M	M
4	Question 2	36	45	53	47	43	38	44	52	46	47	49	49	39	53	46	45	57	43	44	53
5	Question 3	18	17	18	19	23	14	16	23	23	14	22	2	13	22	23	19	21	16	16	17
6	Question 4	SLM	SLM	Operator	MMT	FLM	Tech	Operator	Tech	Operator	FLM	SLM	MMT	FLM	SLM	FLM	MMT	FLM	FLM	SLM	FLM
7	Question 5	8	8	10	10	7	8	8	6	9	7	8	10	8	10	8	9	8	9	10	9
8	Question 6	9	9	10	10	7	10	7	8	9	6	9	10	10	10	9	9	8	10	7	9
9	Question 7	4	9	10	10	7	7	7	8	6	8	6	10	6	10	6	8	7	10	4	7
10	Question 8	7	4	8	7	4	3	3	7	7	3	6	5	8	5	7	6	8	5	3	3
11	Question 9	8	10	10	10	8	10	9	7	6	9	8	10	9	6	9	9	7	8	10	8
12	Question 10	10	10	9	10	5	8	10	6	8	8	8	10	9	8	10	7	5	9	10	8
13	Question 11	8	10	6	10	9	7	9	8	7	9	8	10	7	10	8	8	8	9	10	8
14	Question 12	3	8	10	8	3	5	7	1	7	5	9	10	7	8	7	6	6	4	5	5
15	Question 13	1	5	10	10	6	8	7	5	8	9	8	10	4	6	3	5	7	4	6	2
16	Question 14	9	10	10	10	5	6	8	5	7	7	8	10	9	7	4	9	4	7	6	7
17	Question 15	3	6	8	10	6	5	4	2	5	4	8	10	6	7	3	7	4	5	5	2
18	Question 16a	9	8	10	7	9	8	3	2	4	7	8	9	6	8	9	6	8	8	8	7
19	Question 16b	7	6	10	8	4	3	3	2	6	4	5	9	6	4	4	4	5	5	7	3
20	Question 16c	5	4	8	7	4	5	4	2	1	3	6	6	7	6	4	3	4	4	1	
21	Question 16d	3	2	9	7	4	5	2	2	4	3	4	2	8	4	4	2	5	6	3	3
22	Question 17	6	8	10	10	2	8	8	3	6	8	7	9	8	8	8	7	7	8	6	7
23	Question 18	2	4	5	4	3	4	2	3	4	3	3	4	4	3	4	4	3	4	2	3
24	Question 19	5	4	6	6	5	6	4	5	5	4	4	5	5	4	5	5	4	5	5	5
25	Question 20	2	3	6	6	4	6	3	4	3	3	4	5	4	3	3	6	3	3	2	4
26	Question 21	4	5	6	6	3	6	4	5	5	3	4	6	5	4	4	5	4	2	5	4
27	Question 22	2	5	6	6	4	6	5	5	4	3	4	6	5	4	4	5	3	2	5	4
28	Question 23	1	3	4	6	2	5	3	4	4	2	3	6	5	3	3	4	3	3	2	2
29	Question 24	4	4	5	1	2	6	3	4	4	2	4	5	2	4	4	3	4	2	2	3
30	Question 25	4	4	4	6	2	4	3	2	2	4	3	5	4	4	4	6	3	2	2	4
31	Question 26	4	2	6	6	3	6	3	4	3	3	3	5	4	2	4	5	4	4	2	4
32	Question 27	2	2	5	4	2	5	3	3	3	2	2	4	3	2	4	5	3	2	2	2
33	Question 28	4	5	5	6	3	6	4	5	5	3	4	6	4	4	4	5	4	3	4	3
34	Question 29	3	5	5	6	3	5	4	4	3	3	4	6	6	4	3	6	5	4	5	4
35	Question 30	2	2	3	6	3	4	3	2	3	3	3	5	5	3	2	4	3	3	4	2
36	Question 31	3	4	4	6	2	5	3	3	4	4	4	5	5	3	3	5	4	4	4	3
37	Question 32	2	5	5	6	4	5	4	4	2	3	5	6	4	4	3	4	4	4	3	5
38	Question 33	5	5	6	6	4	6	4	5	5	4	4	5	4	4	4	5	4	4	5	4
39	Question 34	5	5	5	6	3	6	3	5	2	4	5	5	5	4	4	6	4	4	4	4
40	Question 35	1	3	3	4	1	3	3	4	2	2	3	5	2	3	3	4	2	2	1	2
41	Question 36	2	4	5	6	2	3	4	4	3	2	2	5	2	4	2	4	3	2	4	2
42	Question 37	2	3	3	4	2	2	3	3	2	4	3	5	4	3	4	4	4	4	3	3
43	Question 38	4	4	4	6	3	5	4	5	5	4	2	5	4	4	3	5	3	1	1	1
44	Question 39	4	5	6	6	3	5	3	4	4	3	4	6	5	4	3	5	4	1	5	1

Appendix 5 - Standardised Questions on Job Satisfaction

- 1) Communication and the way information flows around your organisation.
- 2) The relationships you have with other people at work.
- 3) The feeling you have about the way you and your efforts are valued.
- 4) The actual job itself.
- 5) The degree to which you feel 'motivated' by your job.
- 6) Current career opportunities.
- 7) The level of job security in your present job.
- 8) The extent to which you may identify with the public image or goals of your organisation.
- 9) The style of supervision that your superiors use.
- 10) The way changes and innovations are implemented.
- 11) The kind of work or tasks that you are required to perform.
- 12) The degree to which you feel that you can personally develop or grow in your job.
- 13) The way in which conflicts are resolved in your company.
- 14) The scope your job provides to help you achieve your aspirations and ambitions.
- 15) The amount of participation which you are given in important decision making.
- 16) The degree to which your job taps the range of skills which you feel you possess.
- 17) The amount of flexibility and freedom you feel you have in your job.
- 18) The psychological 'feel' or climate that dominates your organisation.
- 19) Your level of salary relative to your experience.
- 20) The design or shape of your organisation's structure.
- 21) The amount of work you are given to do, whether too much or too little.
- 22) The degree to which you feel extended in your job.

Occupational Stress Indicator (Cooper et al., 1987) cited in Arnold et al. (1998, p. 205).

Appendix 6 – Survey Questionnaire



Job Satisfaction and Change Questionnaire March / April 2008



For questions 1-4: *Please indicate your answer by circling the appropriate response*

1) Are you male or female?

Male

Female

2) What is your age?

_____ Years

3) How many years have you worked at UPM-Shotton?

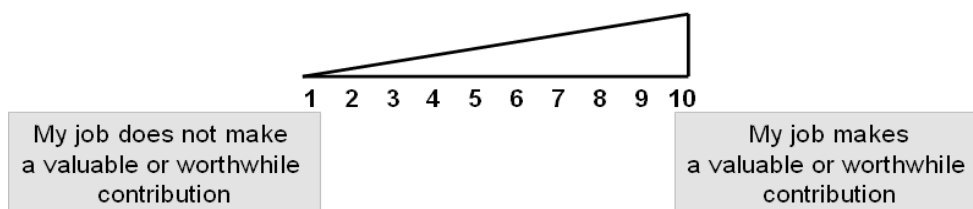
_____ Years

4) What is your current job role?

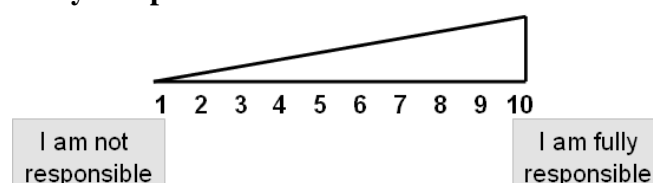
MMT. Second Line Manager. First Line Manager. Technician. Operator. Other.

For questions 5-17: *Please indicate your answer by circling the appropriate number on the triangle.*

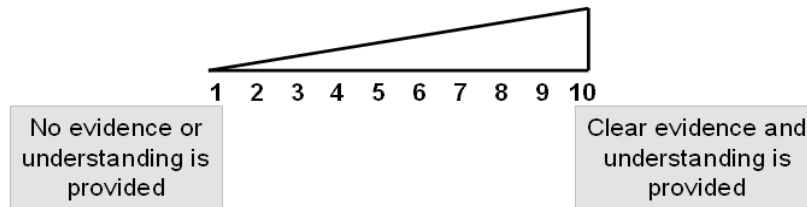
5) How would you evaluate your job in terms of the contribution it makes to the business?



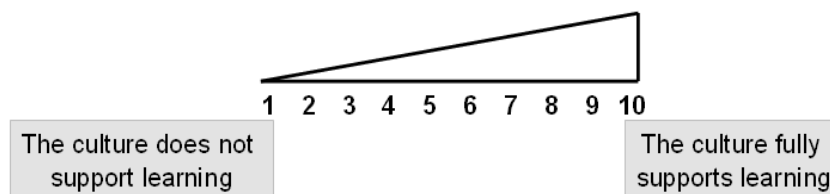
6) How would you rate the level of personal responsibility you feel for ensuring that your work is successfully completed?



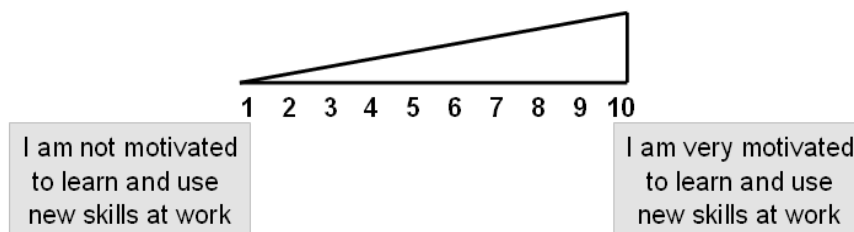
7) How would you rate your job in providing clear evidence and understanding on how effectively you perform?



8) How would you evaluate the organisational culture, in terms of supporting employee learning?



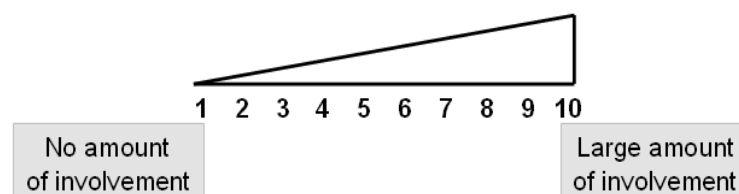
9) How would you rate your own motivation to learn and use new skills at work?



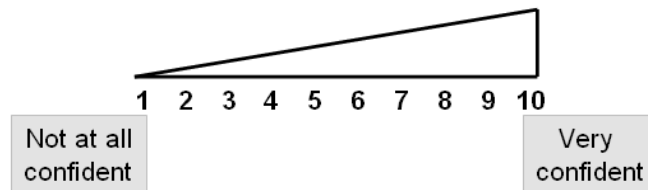
10) How would you rate involvement in TPM as an opportunity to learn and acquire new skills?



11) How would you evaluate the level of involvement you experienced in the early stages of TPM implementation?



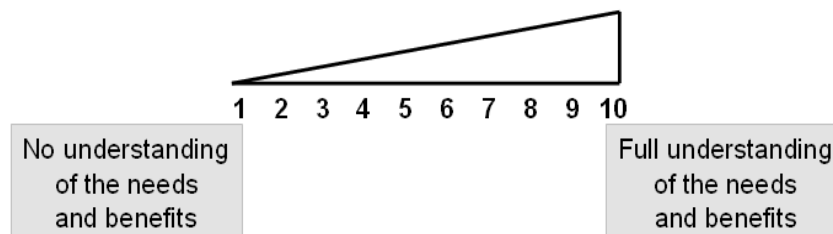
12) How confident are you that TPM can be successful at UPM Shotton?



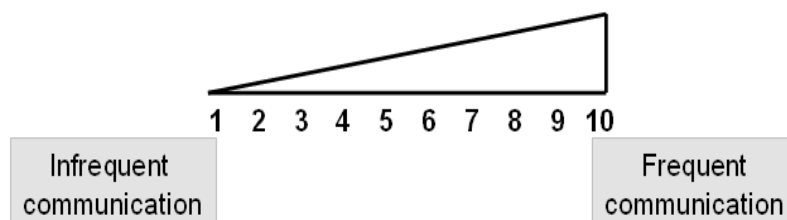
13) How would you evaluate the level of support given by key organisational personnel to the TPM programme?



14) From internal mill communications, how would you assess your understanding of the need and benefits of TPM?

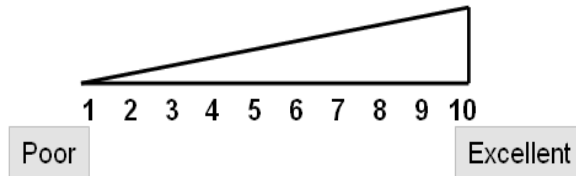


15) How would you rate the frequency of face to face communication from management, concerning the TPM programme?

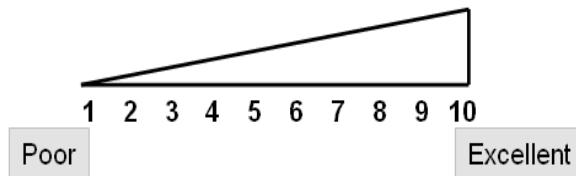


16) How would you rate the effectiveness of each of the following communication methods, on TPM, within the mill?

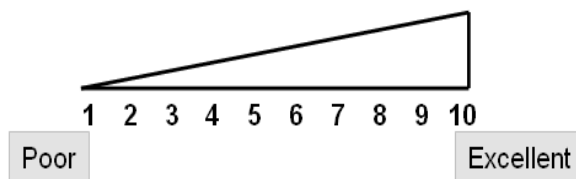
- **Face-to-Face communication from Management. (e.g. In controls rooms)**



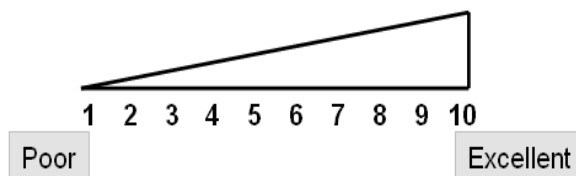
- **Presentations in Sitka room from Management (e.g. At T&C Days)**



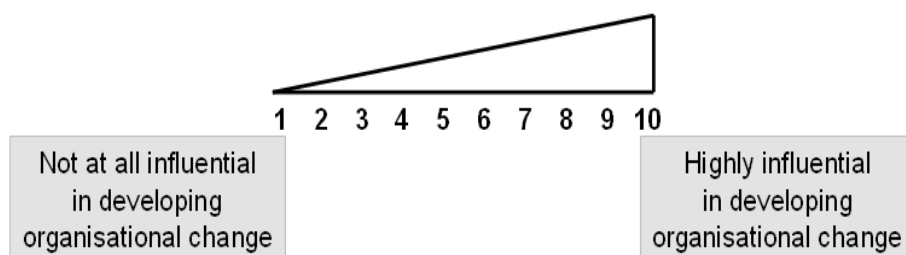
- **Newsletters**



- **Intranet / E-mail**



17) How influential do you believe 'Continuous Improvement' could be in encouraging and developing organisational change at UPM Shotton?



For questions 18-39: Please indicate your answer by circling the appropriate number on the triangle.

1 = Very much Dissatisfaction

4 = Some Satisfaction

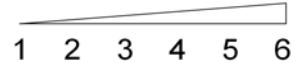
2 = Much Dissatisfaction

5 = Much Satisfaction

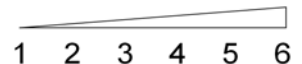
3 = Some Dissatisfaction

6 = Very much Satisfaction

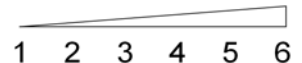
18) Communication and the way information flows around your organisation.



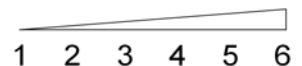
19) The relationships you have with other people at work.



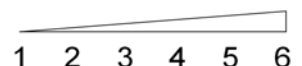
20) The feeling you have about the way you and your efforts are valued.



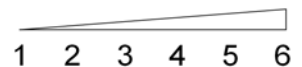
21) The actual job itself.



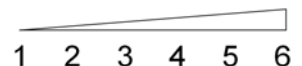
22) The degree to which you feel 'motivated' by your job.



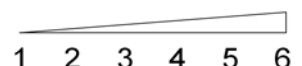
23) Current career opportunities.



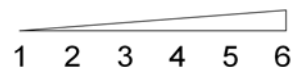
24) The level of job security in you present job.



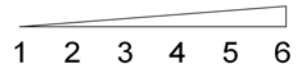
25) The extent to which you may identify with the public image of your organisation.



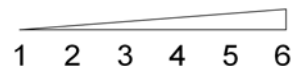
26) The style of supervision that your superiors use.



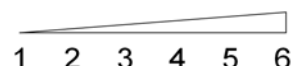
27) The way changes and innovations are implemented.



28) The kind of work or tasks that you are required to perform.



29) The degree to which you feel that you can personally develop or grow in your job.



30) The way in which conflicts are resolved in you company.

1 2 3 4 5 6

31) The scope your job provides to help you achieve your aspirations and ambitions.

1 2 3 4 5 6

32) The amount of participation which you are given in important decision making.

1 2 3 4 5 6

33) The degree to which your job taps the range of skills which you feel you possess.

1 2 3 4 5 6

34) The amount of flexibility and freedom you feel you have in your job.

1 2 3 4 5 6

35) The psychological 'feel' or climate that dominates your organisation.

1 2 3 4 5 6

36) Your level of salary relative to your experience.

1 2 3 4 5 6

37) The design or shape of your organisation's structure.

1 2 3 4 5 6

38) The amount of work you are given to do, whether too much or too little.

1 2 3 4 5 6

39) The degree to which you feel extended in your job.

1 2 3 4 5 6

-----END OF QUESTIONNAIRE-----

Thank you for taking part.

Appendix 7 – Dissertation Project Plan (October 2007 - June 2008)

Year	2007												2008																									
Month	October				November				December				January				February				March				April				May				June					
Week Number	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Define Research Question and Aims																																						
Conduct Literature Review for Proposal																																						
Write Proposal																																						
Submit Proposal (29th Nov 2007)																																						
Write Presentation on Proposal																																						
Present Proposal (12th Dec 2007)																																						
Write-up Introduction (Chapter 1)																																						
Conduct Literature Search																																						
Write Literature Review (Chapter 2)																																						
Organise and Conduct Semi-structured Interviews																																						
Write Survey Questionnaire																																						
Pilot Survey Questionnaire																																						
Conduct Survey Questionnaire																																						
Record and Analyse Results from Questionnaires																																						
Write-up Methodology (Chapter 3)																																						
Write-up Findings (Chapter 4)																																						
Write-up Conclusions (Chapter 5)																																						
Dissertation Binding																																						
Submit Dissertation (12th June 2008)																																						